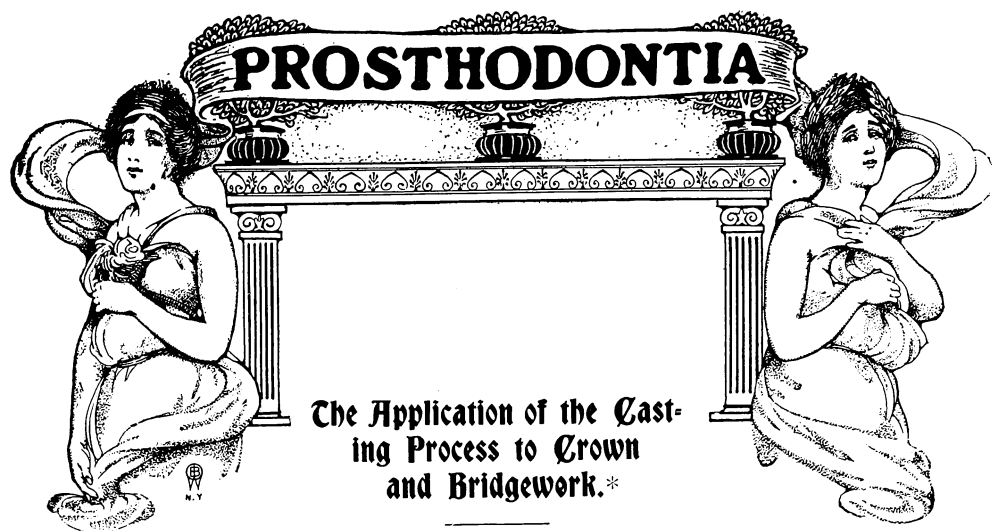


DR. FREDERICK SHIVELY WHITSLAR.



JOSEPH WILLIAM WASSALL, D.D.S.



DR. HART J. GOSLEE, B.S., D.D.S., Chicago

Formation of Cavities in Anterior Teeth.

If the casting process had made possible nothing more than the accurate adaptation of attachments to the natural crowns of anterior teeth, for the support of bridgework, it would still have filled a most important and useful mission. Prior to its advent a number of different methods of obtaining attachment were advocated and used, but because of the difficulty of securing any great or uniform degree of accuracy in their adaptation, natural teeth so used were often subsequently lost as a result of this deficiency.

Now, however, since the accurate adaptation of the inlay to the cavity is insured, the success and permanency of such attachments resolves itself into the simple question of the best type of cavity formation to be applied to the individual case, and this, of course, must necessarily vary with the conditions presenting.

In making attachment to upper incisors, where the tooth to be used stands free of adjacent teeth on each side, as indicated in Fig. 429, the cavity formed should involve both approximal surfaces and should extend across the incisal end, allowing as much of the labial plate of enamel to remain as is possible, but extending the approximal margins far enough labially to allow them to be free from contact of adjacent artificial teeth (Fig. 430). In such cases, when the pulp is vital, small pins may or may

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not be indicated, but it is always safer to use them whenever there is any doubt, while in cases where the pulp has been or must be devitalized, the use of a pin is almost invariably indicated.

Where the attachment is to be made to a tooth having an adjacent natural tooth on one side of it as indicated in Fig. 431, only the *approximal presenting toward the space* and the *lingual* surfaces need be in-

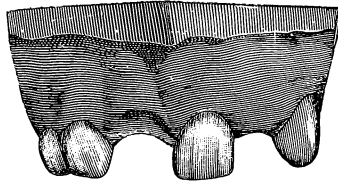


FIG. 429.

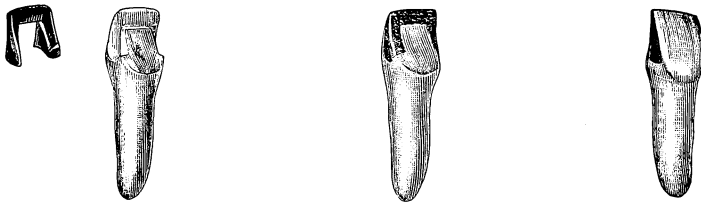


FIG. 430.

volved, but one or two pins should invariably be used, and the filling should extend far enough around the labial angle to be free from contact with artificial teeth, and all margins well defined (Fig. 432).

Cavities in upper cuspids and bicuspid *which stand alone*, and where no decay is present, may be formed as for the ordinary "groove," or so-called Carmichael attachments (Fig. 433), while, if approximal cavities are present, the formation may be made along the same lines as for incisors.

As applied to the lower incisors, a secure attachment may be made by forming the cavity as outlined in Fig. 434, which, when a pin is used, insures a good adaptation, adequate strength, and practically no display of gold. In cases where some little display of gold may not be objectionable the cavity formation suggested by Dr. F. E. Roach will be found useful (Fig. 435). In this type of attachment it will be observed that the use of a pin will not be necessary.

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Lower cuspids and bicusps may be used much in the same manner as indicated for the upper teeth, but in *all* cases the cavities must be so formed as to have *definite margins* to which the inlay may be closely finished, and these margins should always be extended to an area which will be free from contact with adjacent artificial teeth and thus rendered self-cleansing.

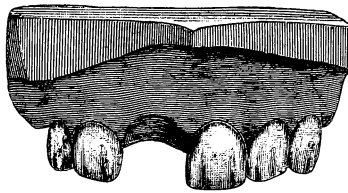


FIG. 431.

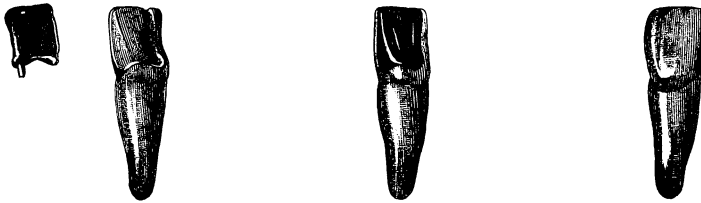


FIG. 432.

Technique.

When the cavity has been properly formed and all margins made well defined and smooth, the pins, if any are used, should then be placed in position in the tooth, having a little bead of wax melted around their previously notched surplus ends to form a head (but observing that their length does not interfere with the opposing teeth when in occlusion), and the wax filling then molded.

Making Wax Inlay.

For this purpose a *hard* wax, or one which is not affected by the body temperature, should *always* be used, for the reason that any wax which is sufficiently softened by the temperature of the body is not reliable, because if the wax inlay yields or draws to the slightest extent in removing from the cavity, accuracy of adaptation is thereby endangered, and no proof of the correctness of the cavity preparation obtains, both of which important features are insured by the use of a hard wax.

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A piece of such wax of suitable size and shape should first be trimmed to follow the outlines of the cavity, thus insuring its readily finding its way to the most extreme cervical margin or margins, and at the same time allowing a liberal quantity of surplus.

When so trimmed the wax should then be heated to a *proper, uniform and workable* plasticity, which can be done best in hot water, or, possibly, by means of electricity, and the piece then forced to place with

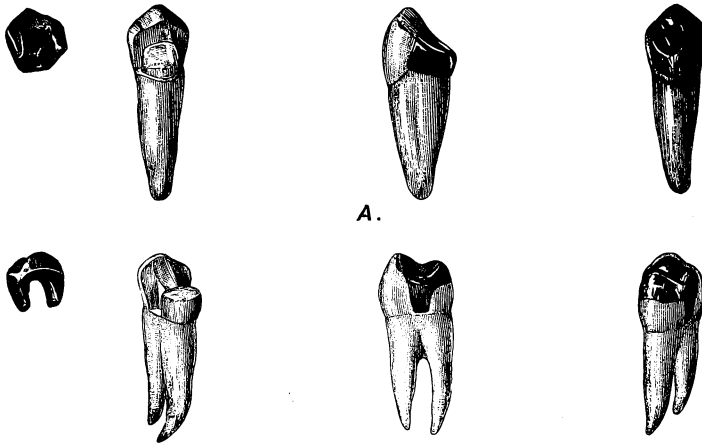


FIG. 433. B.

considerable pressure applied with the thumb. When so seated, the patient should be instructed to close firmly into it, and to exercise all of the mandibular movements, as in the act of mastication. When this has been observed the wax should be chilled with a spray of cold water and all of the surplus gradually and carefully trimmed away to the cavity margins with a warm sharp instrument. A thin ribbon separating file should then be carefully passed between it and the adjacent tooth, if one be present, and the filling gently removed by inserting a pointed instrument into the body of it at some favorable place, after which it should be finally trimmed and carved.

Any pins used will nearly always cling securely to the filling, but if they do not and are found to be loose, they should be lifted out of the wax and replaced in the tooth. The filling should then also be replaced and a hot pointed instrument inserted into the wax until the end of each pin is reached. This will melt the wax around the head of the pins and

thereby securely attach them, after which the filling should be polished smooth with a pledget of cotton dipped in liquid vaselin or glycerin. The approximal surfaces may likewise be polished by using a strip of very thin tape previously saturated with either of the above and gently drawn backward and forward, much as a finishing strip is used. When the wax filling is thus finished, it should be carefully removed from the cavity and immediately invested. While some may prefer to place the

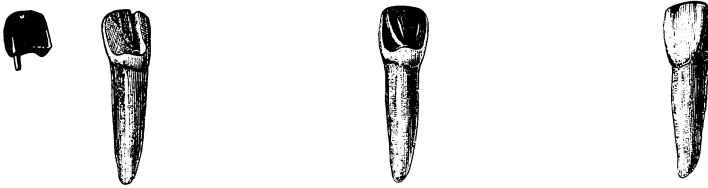


FIG. 434.

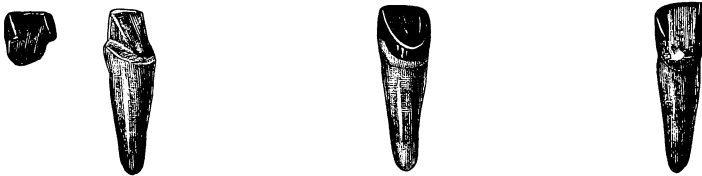


FIG. 435.

wax filling in a small jar partially filled with water, and invest at a more convenient time, it is usually best to do this immediately as a precaution against any possible accident or change of form.

Investing. Prior to investing, the sprue-wire should be heated as hot as may be comfortably held in the fingers and then pressed into the inlay (Fig. 436) at some thick and favorable point, and held until cold. It should now be observed that the attachment of the inlay to the sprue-wire is securely made, in order that the possibility of its becoming loose and floating around in the investment may be precluded; it is then placed in position in the base of flask (Fig. 437).

An investment material which possesses the combined qualities of withstanding heat without change of form, of presenting a *smooth surface* and yet of such texture as will admit of the egress of air which is contained within the mold after the wax has been burned out, is

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essential; and the accuracy of adaptation of the completed filling will largely increase in proportion as these qualities are present.

Such an investment should be mixed of a proper consistency, which may be obtained with uniformity by previously ascertaining the proper proportions each of investment material and water, by measurement. As

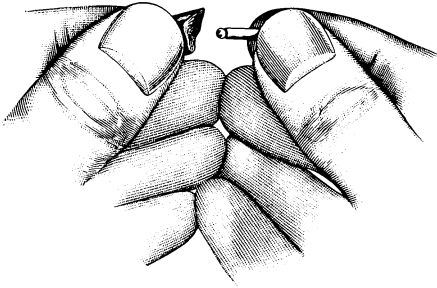


FIG. 436.

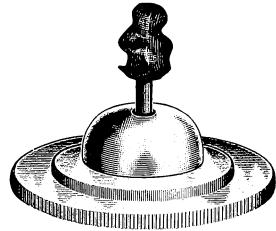


FIG. 437.

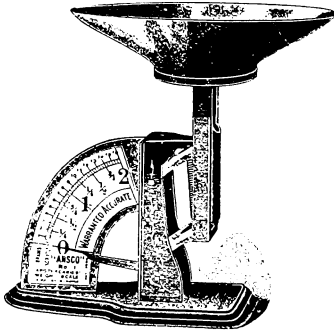


FIG. 438.

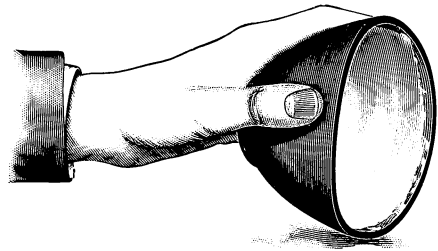


FIG. 439.

a working basis two parts of investment to one part of water, by weight, will usually afford a mix of the proper consistency, though this may vary with the different materials now in use. The "Anasco" apothecary scale No. 1 (Fig. 438) will answer nicely for weighing water and investment. When the proportions are thus properly weighed, they should then be thoroughly mixed, first with the spatula and then by rolling it in a thin layer around the inner surface of the bowl until all gases formed by the chemical reaction are liberated (Fig. 439).

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This should now be painted over the surfaces and into the pits and grooves of the wax filling with a small brush, and then built up freely as indicated in Fig. 440, the flask ring adjusted (Fig. 441), and the investment completed with the one mix.

When thoroughly hardened, the base should be carefully detached,

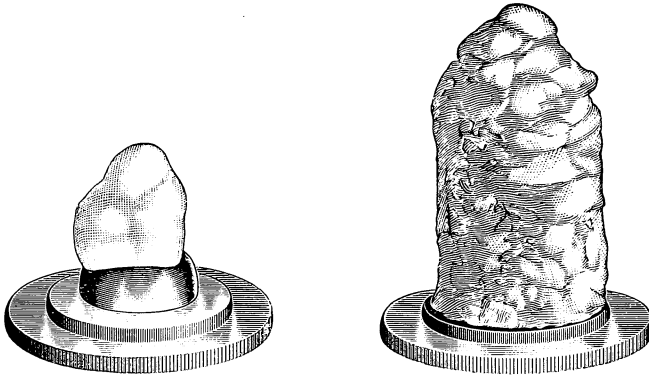


FIG. 440.

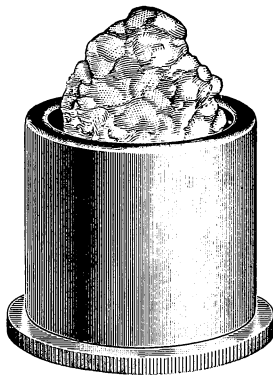


FIG. 441.

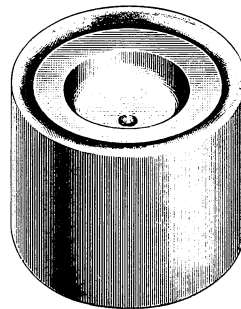


FIG. 442.

the sprue-wire heated and gently removed with heavy pliers (Fig. 442), and the flask then placed over the burner and the wax burned out.

Heating Up and Burning Out Wax.

Much of the success of the casting will depend upon properly heating up the flask and burning out the wax, and yet this must be done in such manner as will insure both, while at the same time conserving the integrity of the investment.

Where several cases are to be invested, heated up, and cast at the same time, it is always well to make some mark or letter on the under side of the investment in each flask, or with chalk on the flask ring, before heating, as a means of distinguishing them.

Just as soon as the investment has hardened and the base and sprue-wire have been removed, the flask should be placed over a very low flame and allowed to remain at such a temperature for five or ten minutes, or until all moisture in the investment has been converted into steam and evaporated.

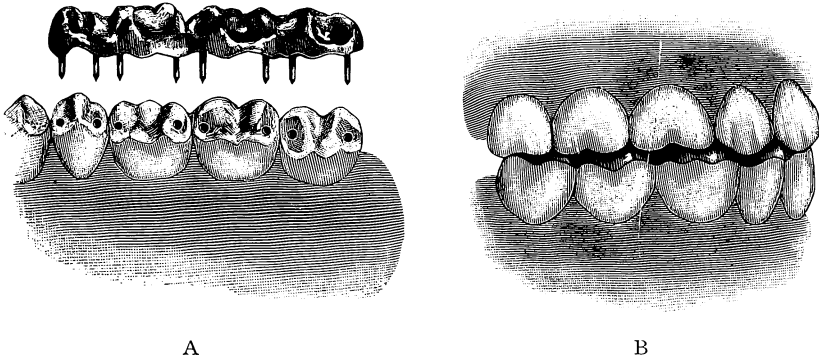


FIG. 443.

The flame may then be slowly and gradually increased until its full volume has been reached, at which point the case should be allowed to remain until all evidences of burning wax or gases emanating therefrom, or of smoke, cease. Altogether this will usually require from twenty to thirty minutes, and the casting should never be attempted until such precautions have been observed, because any gases confined within the mold will cause imperfections in the casting.

When thus properly burned out, the case should be allowed to cool somewhat before casting, if possible, as experience seems to prove that the influence of heat and consequent expansion at the time of casting is more or less noticeable in the degree of accuracy in the adaptation, and this varies, of course, with the different investment materials.

Casting. When the case has been properly burned out and allowed to cool as much as possible, or until only warm, the casting should then be made. All forms of inlay attachments for bridgework should be cast with an alloy of gold and platinum, or with about 22-karat gold, for the reason that pure gold is much too soft.

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An alloy of five per cent. of platinum in pure gold, furnishes what appears to be the ideal combination for this purpose, although 22-karat gold, or coin gold, may be used. In the use of either, however, all parts of the work—inlays, crowns, backing, etc., should be cast with the same metal or alloy, in order that a uniform color may present throughout the finished piece.

It is also advisable to have a considerable surplus of gold for each casting, as undue economy in this connection may be the cause of innumerable failures which might otherwise be avoided, and as such surplus is not wasted, a liberal quantity should always be placed in the crucible.

The gold or alloy to be used should always be melted and refined previous to each casting. This may be easily and quickly accomplished by fusing the mass on a charcoal block and adding a small quantity of potassium nitrate (saltpetre) or borax, or a mixture of equal parts of both, to the fused metal, and failure to observe this precaution will usually result in a refractory or sluggish fusing, and may, consequently, give an imperfect casting.

Opening the "Bite."

In cases where the opening of the "bite" is indicated or demanded as a means of arresting the progress and influences of attrition, several inlays may be made in one piece, as illustrated in Fig. 443. In this procedure the occlusal surfaces need only be prepared to the extent of forming smooth definite marginal edges, and holes for the reception of one or two pins should be drilled into each tooth, observing that they are so placed as to be in parallel lines with each other and not to impinge too closely upon the pulps.

With pins made of about 20 gauge iridio-platinum wire, properly threaded, in position, the wax should be molded to the teeth, and to conform to the occlusion when held at the proper distance. This distance must previously be determined and temporarily sustained by an instrument or wedge on the opposite side of the mouth. When the wax is thus molded, it should be removed and carved and the piece then cast. A case of opening the bite to the extent of making opportunity for the complete restoration of the incisor teeth with porcelain crowns is illustrated in Fig. 444.

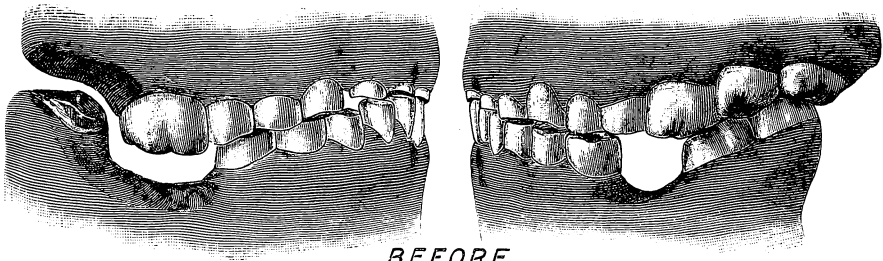
Splinting Loose Teeth.

A similar procedure will often be found useful in splinting and properly restoring the occlusion of loose teeth, as illustrated in Fig. 445, the two inlays being made in one piece, or they could be made separately and subsequently soldered together.

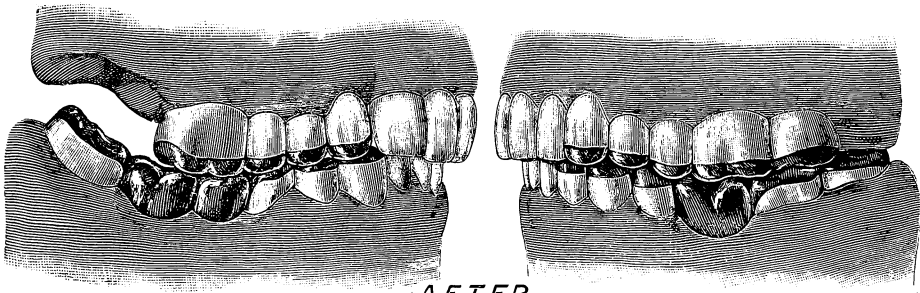
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Combination of Cast Gold and Porcelain Inlay.

In large approximo-occlusal cavities, whether the inlay is to be used as an attachment for bridge or not, it is often desirable to avoid a too conspicuous display of gold, and thus obtain a more esthetic effect. This may be easily accomplished by first making the wax filling and carving it as the requirements demand, and then cutting a "cavity" in the wax, and subsequently filling it with Jenkins's or Brewster's *low* fusing porcelain body after the filling



BEFORE



AFTER

FIG. 444.

has been cast. Such cavities may be cut in the wax, if it is hard, with Roach's "Suction Carver" or with a bur in the engine and sharp chisels, and if made of retentive form, the porcelain is securely anchored therein and will withstand the heat of soldering in the final assemblage of the filling to other parts of the bridge, if care is exercised in heating up and cooling off the piece (Fig. 446).

As there is considerable difference in the expansion and contraction of the larger mass of gold, as compared with the smaller quantity of porcelain, extreme care is also necessary to avoid the occurrence of checks or fractures in the latter after baking. If the cavity margins in the gold filling, however, are made perfectly smooth, if the porcelain is

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not allowed to overlap upon them, and then, if the case is allowed to become cold in the muffle of the furnace after each fusing, and particularly after the last one, such mishaps may be avoided. In the event of an imperfection, the porcelain may be completely removed from the cavity in the gold by placing the filling in hydrofluoric acid, after which it may again be baked.

Casting to Surfaces of Metal.

In any of these procedures no apprehension need be felt as to whether the metal to be cast will alloy with or become securely attached to such bands or dowels, etc., as are used, for *if the latter are clean and free from oxidation* when the case is invested, and *if the metal is*

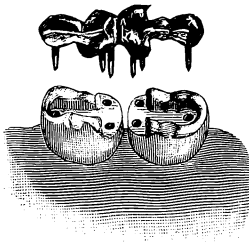


FIG. 445.

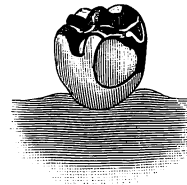


FIG. 446.

sufficiently fused when the casting is made, a physical union usually results. In the case of casting to the extreme ends of dowels, or small pins, or to the surfaces of clasps, attachments, etc., however, they should always be notched or roughened as a means of mechanically aiding in this attachment.

Use of Base Metals and Alloys

While an alloy of base metals compounded and advocated for all forms of cast work called "Acolite," "metalite," etc., or any of the better grades of amalgam or similar alloys may be used in the construction of crown and bridgework, with good results perhaps, the use of such low grade metal is not recommended, nor are they considered as possessing any possible advantage save that of pure but unwholesome economy.

(To be continued.)



A Reply to "H. A. P.'s" Criticism of "Dental Orthopedia."

By CALVIN S. CASE, D.D.S.

The author of a text-book upon any branch of dentistry or medicine should always be pleased with an honest, able review of his work, whatever the opinions it advances. If it points out recognizable errors—which a text-book is rarely free from in its first edition—the author looks forward to correcting them in its second edition. If it attacks methods and principles which the author believes to be sound, through a long and successful practice and teaching, it affords him an opportunity to briefly but forcibly republish his views, thus reaching many who do not possess the book. Nor need he repine if a writer, under the guise of a reviewer, descends to the lower level of unfair criticism, because this is one of the strongest evidences of a book's worth, and sure to redound to a greater dissemination and appreciation of its teachings.

In the February number of the *ITEMS OF INTEREST* is published, over the signature of "H. A. P.," what the writer would like to have pass as a fair review of the text-book, entitled "Dental Orthopedia," but which, more properly speaking, is a criticism written from a decidedly prejudiced standpoint, and evidently intended to injure the book and its teachings.

Coming as it does at this time when nearly every prominent dental journal of the world has reviewed the book in words of the highest praise, it is not likely to do any very great harm, especially as every intelligent and fair-minded reader can readily see the real spirit which actuated its volum-

inous and over-reaching attacks, though adroitly but weakly covered by a semblance of high motives. Realizing, however, that there are many in the large class of orthodontists who at present are opposed to certain of the author's teachings and who will make no attempt to verify the statements of the critics by a careful examination of the book—which would be its most competent defense—I feel it incumbent upon me to make a reply, which certain unavoidable conditions have prevented from appearing at an earlier date

I am aware that it is not customary—though by no means unprecedented—for authors to defend their books against the opinions of reviewers, because reviewers almost invariably keep within the bounds of truth and logical deductions; but it must be remembered that the prominence and wide circulation of the journal which fathered this criticism as a fair review, places it in the hands of many readers who will know nothing of the book, except from its reviews; while others would not care to possess a book so faulty as this might seem to them if there was no reply.

Throughout the seventeen pages of this remarkable criticism, as will be shown, it consists mainly in picking flaws, principally with things of no very great importance, which the critic unhesitatingly turns and twists to suit his theme without one single frank expression in regard to the book's teaching relative to the main principles of modern orthodontia, in which we are all in accord, nor an honest defense of certain recent radical theories of the "new school" which the book forcibly opposes, and which, without doubt, constitutes the main cause of this attack.

In the main portion of our teaching there is no more difference than in other branches of dentistry performed by different men, all working for the attainment of a common good. Although we differ in our methods of moving teeth, the greatest difference lies in the fact that rational orthodontia is not bound to the unvarying rule of producing a normal occlusion at the expense of the higher attainments in dento-facial art: nor does it exclusively employ the methods introduced by Dr. Angle of moving the crowns of teeth with an "expansion arch" and wire ligatures, where other motive forces are found to be more applicable and effective.

No one can honestly say that my book does not fully teach, and strongly enforce, the importance of a normal occlusion, in all cases where this can be safely accomplished without leaving or producing an unhappy facial deformity. No one can say that I have not fully explained the principles and advantages of the non-extraction of teeth in orthodontia, nor that I have not forcibly protested against the methods that were commonly employed where extraction was believed to be necessary even as late as Dr. Angle's "sixth edition" of "Malocclusion." Yet my reviewer

completely ignores these and other important teachings of the book, seemingly because they present no opportunity for disapproval or censure, while the business of an honest reviewer is lost sight of.

Because I do not accept the radical theory that "*no teeth should ever be extracted in orthodontia*"; and that "the attainment of a normal occlusion will result in the most perfect outlines," etc., and because in two out of fifty-one chapters of my book this radical teaching of the "new school" is given in the words of their leading men, and I then proceed to show by argument and by numerous illustrations of practical cases (in a manner which cannot be controverted) why this theory should not be practised in certain cases, and because my teaching is made to conform to these views in places *only* where these questions necessarily arise, my critic boldly tells you that my whole book is "largely controversial." So wrought up is he upon this subject that he uses considerable space in two places, widely apart in his criticism, but quite similar in wording and style, to show principally that a text-book should not contain matter of a controversial nature, or at least should give only the author's side of such subjects. I refrain to give more than the theme of the critic's offensively exaggerated remarks upon this subject. In small part they are as follows:

"The book in the main, outside of the chapters devoted strictly to technique descriptions and treatment, contains so many chapters of unfavorable criticism of 'new school' methods that the reader gains the impression that it is a controversial volume."

"The writer would criticize this method of bookmaking inasmuch as a treatise on any science ought to present the author's point of view and should stand on its own merits, to be accepted or discarded by the reader according to his judgment of its relative value." (Page 138.)

"The book, in a large degree, may be styled a controversial work, in which the disputes of the claims of others and the priority and perfection of the author's methods are all too frequently encountered. A scientific work ought to present a theory which should be allowed to stand upon its own merits before the reader without the interjection of the controversy in regard to the methods of others, which might better be left to the essay where it is permissible, but not even there with the personal equation entering into it." (Page 144.)

In the author's opinion a text-book should teach what he believes to be the truth in regard to the science, the art, and the practice of the branch to which it pertains. If marked differences of opinion have arisen between the leading men of this branch pertaining to vital questions of the greatest importance, and the author sees that great harm will arise in many cases if certain theories are fully practised as taught he should consider it incumbent upon him to fully state this teaching, and so far as he can in the words of its authors, so that there will be no possibility of a

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misunderstanding of it; and then he should strive with his greatest ability to point out the truth so that students will have the whole of these great questions before them and can thus be more capable of choosing the proper course of practice.

This I have endeavored to do in the two chapters referred to, relative to the unvarying practice of non-extraction, and of placing the teeth *always* in a normal occlusion. One of these chapters was copied almost verbatim from an article published in the *Cosmos*, and is mainly for the purpose of showing the methods and evidence presented by the leading men of the "new school" to sustain their theory of invariable non-extraction and, consequently, as explained in its introduction, this particular chapter "is of a somewhat controversial" nature. But this gives the critic no right to untruthfully assert that this controversial feature is characteristic of the entire book.

"H. A. P." starts his criticism at the very title of the book, and throughout its pages up to the very last chapters the little he finds to commend rarely escapes an ultimate dash of cold water. His argument that the title "Dental Orthopedia" is "ill chosen," is based upon his statement that "its definition can only literally be the correction of dental deformities for *children*, unless the term is stretched."

It may be properly asked if the practice of general orthopedia is limited to the deformities of children? And if it would not be quite as well for a writer to look up the modern authoritative definition of terms before basing a criticism upon one's personal opinion of their accepted application. The following is from "Gould's Dictionary of Medicine": "ORTHO-PEDIA: The surgical and mechanical correction of the deformities of children, *and of deformities in general.*"

A fair reviewer, if he said anything in regard to the title of a book, would at least quote the author's reasons for choosing this title, especially when, as in this instance, it is fully given in the preface, and leaves no opportunity for these petty objections.

In the language of the critic: "The arrangement of the chapters is faulty, in view of the sequence suggested by a consideration of the subject in the chronological order in use in the best text-books on diseases or deformities in general medicine, such as a treatise on tumors, in which the beginning chapters describe the morphological, the macroscopical and microscopical anatomy, following the order of etiology, diagnosis, prognosis and treatment. The consideration of stock material and appliances in the first chapter of Dr. Case's book is out of place, as would be the de-

Arrangement of Chapters.

ITEMS OF INTEREST

scription of knives and catgut ligatures in the first chapter of a treatise on tumors," etc.

Believing it to be important to the most skilful treatment of irregularities that those who practice this branch should be capable of constructing their own appliances, for special conditions, at least where the commercially constructed appliances may be found inadequate, the beginning instruction in my teaching in the college is technic work, which in the regular course is passed in the junior year. It is, therefore, the proper beginning of a text-book used where this is taught. Part I is not only devoted to the instruction of the technic class, but it also describes in detail the construction of every part of all the regulating apparatuses illustrated in the book, which proves that there was no intention on the part of the author to force dentists to buy his appliances, as the critic repeatedly infers. The subsequent parts follow the exact chronological teaching that is presented in the early and developing years of student life and practice. Permit me to quote the opening lines of the book's preface:

"This work is not intended as an unabridged treatise on the principles and practise of orthopedic dentistry, but it is one that is especially designed for teaching the technics and practical principles of correcting dental and dento-facial irregularities in colleges where thorough training is desired. It will also be found convenient and instructive as a reference book in practise.

"In the presentation of the work there has been an endeavor to systematically arrange the different branches in the sequence that would develop in the natural demands of training and practice. It commences with the commercially prepared material and carries the work through the several progressive stages to the final construction and adjustment of regulating apparatus and retaining appliances. It deals concisely with general and special principles relative to the application of force, diagnosis, classification, causes, treatment, and retention. The description of specific methods of correction commences with simple and complex irregularities that are most common in practise and progresses through the characteristic types that are susceptible of classification, with a view to a systematic arrangement especially useful in teaching, and also useful to those who contemplate operations of regulating."

I have always believed that causes of irregularities should be taught only in connection with the diagnosis and treatment of practical cases. Here all of the causes it is possible for us to know will be found in this work, where they can be more intelligently applied and remembered.

Commercial Listing.

The following is a fair sample of the kind of misrepresentation which characterizes in one form or another the entire criticism, and to which no author in a realization of its injustice could help replying:

ORTHODONTIA

"It is to be regretted that a book which purports to be a scientific treatise on so important a subject as dental orthopedia should be handicapped by so much of the dental catalogue as appears in its pages.

"While it is possibly true that the general practitioner cannot make many of the complicated appliances illustrated, and must, therefore, order them from the author, it would seem more in keeping with the dignity of the work if the commercial listing of appliances were included in a separate orthodontia catalogue."

The "commercial listing of appliances" means, in all common parlance, in the form and methods of a catalogue which gives the prices of the articles for sale. The critic admits this in the closing words of his paragraphs.

What must one think of a writer, in the capacity of a reviewer, who can make a statement of this kind in regard to a text-book without the slightest foundation for it? If it is true that there is *nothing* in the entire book from its beginning to its end that can be warped, by the greatest stretch of the imagination, into a "commercial listing of appliances," what kind of an effect must this inexcusable statement have upon the status of other openly prejudiced statements which the critic presumes to make?

There is no place in the book which mentions the price of a single article, or of whom it may be purchased. Moreover, every appliance shown in methods of regulating is separately illustrated in the technic department of the work most evidently for the purpose alone of teaching students the details of its construction; and, further, to make it unnecessary for dentists to purchase the commercially constructed appliances.

Instruments of recent origin not previously known to the profession, such as pliers, etc., which are especially adapted to lessen the labor of construction and operating in orthodontia and which, in many instances, are indispensable to certain movements, are illustrated and their uses explained in different chapters throughout the work, but always in connection with the special operation or treatment for which they are adapted.

Everything in connection with the illustrations of instruments and appliances presented in my book is *proper text-book matter, freely indulged in by every author.* Should students and dentists who are interested in this branch be deprived of these advantages because the author, in whose practice they originated, is forced to manufacture them in order to make his teaching a success? At present none of these articles have been advertised in the dental journals, nor have they ever been formally placed in the hands of dental depots for commercial profit, all of which conclusively disproves the repeated insinuations made by the critic.

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Criticism of the Author's Methods.

In regard to my Part IV, entitled "Simple and Complex Irregularities," he says, "the idea of simplicity of appliance construction seems to have been forgotten. Indeed, the title might better serve if it were changed to Complicated Treatment of Simple Irregularities." . . . "The appliances are all complicated, and, in some instances, contrary to the proper handling of force and resistance in the dental arch."

This is a bold statement attacking the ability of an author whose numerous essays upon the scientific application of force in orthodontia have never been successfully refuted, and whose book deals extensively with the action of every form of dental orthopedic force, *in undeniable accord with the laws of mechanics.*

It would seem from the following argument, in which he attempts to prove his assertions, that the essentials of a reviewer are not strongly in evidence, *i. e.:*

"For an example of this complication in appliances, the apparatus shown in the drawing, Fig. 12, is a fair sample.* The requirements for this case are the lateral expansion of the upper arch, at the same time making space for the alignment of the labially erupted central incisor. The appliances directed to be used are bands upon cuspids and molars, lingual bars connecting the cuspid and molar bands on each side, and a jack-screw crossing the arch in the cuspid region, engaging the lingual bars; next, another jack-screw placed between the lateral and central, attached to plain bands, for opening the space for the labially erupted central; finally, buccal tubes upon the molar bands provide for an alignment bow, if needed. Here are three different force-producing appliances in use where a single expansion arch is sufficient for all the requirements."

It will be seen that he purposely words his description of my "Apparatus" to make it appear to the reader as complicated as possible, compared to which the apparatus he prefers is described as containing only "a single expansion arch." Permit me to illustrate and truthfully compare the two methods. It goes without saying that out of fifty odd drawings of apparatus in Part IV, the critic has chosen, in Apparatus 12, p. 204, a fair sample of their greatest complications. This is shown in Fig. 1.

First let me call attention to the fact that the drawings in Part IV—as stated in its preface—are principally for the purpose of showing the application of different forms of force appliances for all characters of simple and complex malpositions, *with no view of presenting the methods as the only, nor as the most effective means for correcting the particular characters of irregularities shown.* And while the drawings show the common characters of malposition, they were diagrammatically designed purely to illustrate the various applications of the special form of force

*See Fig. 1.

under consideration. Nor are they confined to methods original with the author. In this particular they stand as a fair example, shown throughout the work, of the falsity of the critic's statement that the book is "a one-man system." He says: "Dr. Case's text-book is plainly of this type (a one-man system), the work dealing entirely with methods of the author and acknowledging little of contemporary value among others," etc.

12

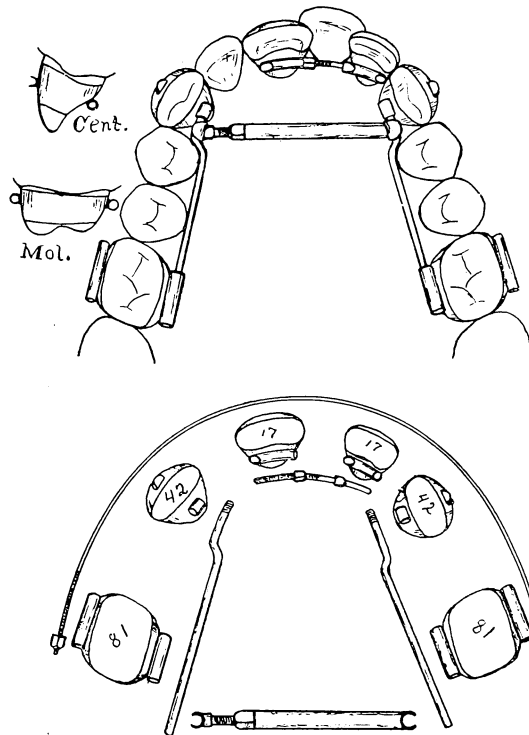


FIG. 1

In the preface I give the names of the principal men to whom I am indebted, and whose inventions and teachings I have culled from throughout the work. This occurs so frequently, with perhaps added variations of my own, that if I stopped at the presentation of each idea, appliance, or principle, whose original introduction and application were due to others, the compact size of the book would be greatly increased.

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In Ap. 12 (Fig. 1), and in various other drawings, is shown the jack-screw originated by Dr. Angle. In Aps. 21 and 34 is shown the application of his wire ligatures; in Aps. 26 and 27, the principles of his rotating levers. Aps. 6, 7, and 21 illustrate Dr. Matteson's ribbon attachment; Aps. 35 to 39, Dr. Young's silk ligature ties, and the application of this force; Aps. 63, 64 and 65, Dr. Farrar's principle of bodily lateral movements, and to Dr. Farrar I have repeatedly given full credit for the origination of the only principle of force that will produce bodily movements of teeth.

Now let me turn to his criticism of Ap. 12 (Fig. 1). He tells us that "here are three different force-producing appliances where a single expansion arch is sufficient for all the requirements." In reality this drawing is for the purpose of illustrating a malposition in which the positive force of a screw will be found effective. When in place in the mouth, this apparatus as shown is neat and comparatively inconspicuous in appearance, non-irritating to the gums and other tissues, which may always be kept in a perfectly healthy condition, the whole permitting a safe and positive application of force for all necessary movements by the slight turning of two or three nuts, accomplished in about one minute, with the production of absolutely no pain except at the start. The straight jack, if fitted properly in the position shown, will lie close to the lingual alveolar ridge. If it is needful to place it back of this point, or if at any time it is found to interfere with the tongue, the arc or drop-jack (shown in other drawings) is employed, which may be adjusted to conform to the curve of the arch or lie close to the dome surface. If these jacks are properly chosen and adjusted the statement that "they greatly interfere with speech and mastication" *is not true*.

If during the operation the application of wire or other ligatures is deemed advisable, or the buccal occlusion demands disto-mesial adjustment, provision is supplied by the band attachments for the adjustment of the labio-buccal bow or "arch," to which may be quickly clasped the hooks for the intermaxillary elastics.

The irregularity shown in Fig. 12 is the least of those in which a jack-screw is demanded. In fact, I doubt if I would employ this force in a practical case which required so little lateral expansion that could be easily accomplished with the arch bow. In other drawings of apparatus, where the arches demand extensive expansion, the drop, arc and turn-buckle jacks are shown in their greatest applicability. (See Ap. 17, page 206; Figs. 6 and 8, page 234, and Ap. 54, page 232.) I have been surprised that more orthodontists do not take advantage of the practical possibilities of positive forces for the extensive expansion of narrow arches. I am confident they would soon find that the exclusive employment of "expansion arches" is a slow, painful and tedious method compared to the

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lingual jacks, which, when once properly chosen and placed, are so easily, quickly, effectively, and painlessly adjusted, distributing every desired lateral expanding force to any one or all the buccal teeth by the simple turning of a nut.

I wish I could illustrate, in this connection, the apparatus which the critic so briefly designates as "a single expansion arch," as I have frequently seen it in action. I suppose he will admit that the arch is as large as Nos. 16 or 17, and that it is supported in buccal tubes upon clamp bands, which are fastened to the molars with lingual screw-bar attachments. If it consisted of no more than this, would we not already have an apparatus which bears the equivalent—according to his nomenclature—of four jack-screw forms of force? And, though two of the nuts are inactive after adjustment, their prominence and irritability of position is far greater than the incisor push-bar in my apparatus, which he is pleased to call "another jack-screw," to say nothing of the insanitary effect of these needless screw clamp-bar attachments projecting into the mouth, compared to the smoothly fitted contours of perfectly fitted and cemented molar bands, which completely surrounds the teeth with no open joints to pocket decaying detritus. A novice might imagine from the critic's description that the placing of "his single expansion arch" was about all one had to do. Every wire ligature placed around a tooth is a separate "force-producing appliance." With the apparatus preferred by the critic one of these ligatures would need to be placed around every tooth forward of the molars, all requiring frequent or occasional individual adjustments, with the production of pain and loss of much valuable time, enhanced by the frequent breaking of a wire upon a second or third adjustment. Nor is the placing of these wire ligatures an easy or painless operation in mouths of contracted arches, especially the medium or large-sized wires, which must needs pass far below the borders of the gingivæ to find sufficient interproximate spaces for their passage, in crowded cases, to say nothing of the deleterious influence upon the tissues which these brass wires must have when allowed to remain long in that position, often pressing into and lacerating the borders of the peridental membranes. I have seen so many cases from the hands of unskilled orthodontists where, an extensive use of the wire ligatures improperly applied were producing deleterious conditions, that I had much reason in prophesying an ultimate whirlwind of pyorrhea cases unless the practice were curtailed within safer limits.

This danger can be greatly averted by the employment of doubled and twisted strands of the smallest size of wire, which require little or no more space than the single strand of this size, while presenting the same strength as the larger wires, while being not nearly so liable to break upon

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subsequent twistings. If all orthodontists who depend so exclusively upon these wire ligature methods were like Dr. Lourie, of Chicago, or Dr. Pullen, of Buffalo, the dangerous element of their application would be greatly limited. Fig. 2 is from Dr. Pullen's chapter on orthodontia in "Johnson's Text-book of Operative Dentistry," page 594, and fairly represents the apparatus which the critic says consists of "a single expansion arch."

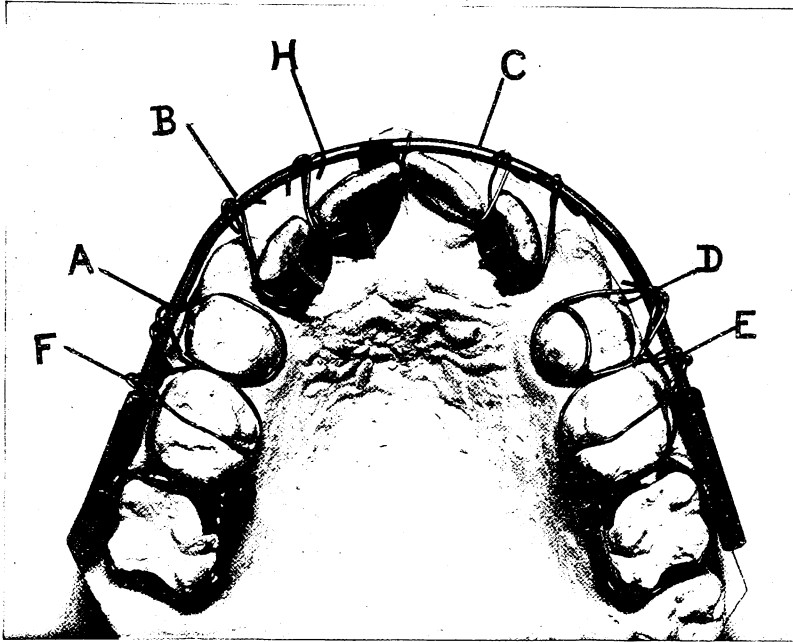


FIG. 2.*

My "reviewer" is surprised that I have not given greater prominence to the expansion arch bow and clamp-bands. Arch bows as heavy as Nos. 19 and 18 "extra hard," with nuts at the mesial ends of buccal tubes, are shown in many drawings of apparatus in Dental Orthopedia, and have been used in the private practice of the author for many years, for giving normal shape and size to the dental arch. But I rarely have use for bows for this purpose as heavy as No. 16 or 17, which, I believe, are the usual sizes of the Angle arch bow. Why? Because my practice is not limited to the autocratic *system* of moving teeth exclusively with wire ligature attachments. I employ these ligatures quite extensively where I can do so safely with proper band protection. But I also employ in my practice, as

*Courtesy of P. Blakiston's Son & Co.

is shown in my book, many other methods of force which, in my hands, I find more effective and less cumbersome than these large bows which are often seen standing far out from the dental arch attached to unbanded teeth with wire ligatures. Delicately constructed, close-lying, non-irritating appliances, whose forces are positive and whose treatment adjustments are simple, I should think would be far preferable. All lingually attached appliances in the present form of their construction need not interfere with the action of the tongue or mastication as claimed by the "reviewer." Even the straight jack which he harps upon is never placed far back of the incisal alveolar ridge. And the greatest practical advantage which appeals to the author is: the combined forces of the appliances, if properly constructed and applied, are capable of producing and controlling every desired movement. It will be seen by this that I neither employ nor teach any one man's "*system*," unless it be called a system of orthodontia mechanics in which every means for the scientific application of force in the regulation of teeth is taken advantage of.

I do not wish to be understood as casting disparaging criticism upon the expansion arch and wire-ligature apparatus for regulating teeth, where it is applicable. I am aware of and fully appreciate the truly wonderful results which many are accomplishing with this method. Moreover, I consider the method—barring the clamb-bands—of inestimable value in my own practice. The lengthy argument I have given to this theme has been solely for the purpose of showing the unfairness of the critic's methods in discrediting the teaching of a book which he is supposed to be honestly reviewing, but of which it is well seen he knows little or nothing, in a practical sense.

Impression Material.

The critic "is somewhat surprised at the stand the author takes upon the quality of impression material," and "regrets the author's use of modeling compound as a deviation from accuracy." The following excerpt is from page 31 of my book, of which the critic quotes only a part. It fully outlines my argument in favor of the use of modeling compound:

"Absolute duplication of parts, as required for artificial dentures, which may be obtained from plaster impressions, is rarely, if ever, demanded. In fact, the slight difference, if any, between dental casts made from skilfully taken modeling compound impressions and those taken with plaster, is quite immaterial for all purposes of study and use; nor is it always advisable to attempt so trying an ordeal as a plaster impression at the first sitting with many nervous children and youths. If the occlusal relations of the teeth were a competent guide for their correction, as many seem to think; or if the plaster teeth, instead of the natural teeth, were used for taking the measurements and fitting the bands, it might then be different. Moreover, it is usually advisable to have a number of casts of

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each case, some of which may be used in holding the bands in place and in setting up the apparatus, where it can remain undisplaced until the final fitting and attachment at the chair. Again, it is frequently desirable to take impressions for casts during the progress of the case with appliances on the teeth or at times when the apparatus is removed for radical changes of force, and during times when the sensitiveness of the teeth should preclude the exhibition of plaster.

"In the author's teaching, competent and successful diagnosis to determine the movements demanded can only be accomplished at the chair, where the natural occlusion of the teeth, and the influence which the teeth and alveolar processes exert in characterizing the facial outlines, may be carefully and intelligently studied in all their phases of malrelation. The author wishes it to be understood, however, that he has no objection to the practice of taking preliminary plaster impressions for models of study—especially by those who cannot or do not obtain perfect impressions with plastic material—if for no other reason than it tends to cultivate habits of nicety and exactitude in other more important branches which pertain to the art of regulating teeth."

The following is the critic's opposing argument:

"The casts made from compound impressions by a very careful operator may not vary considerably from a *general resemblance* to the natural teeth and alveolar arches which they are intended to reproduce, but compound will not copy the forms of arches and teeth nor their surfaces with any degree of accuracy, and the same method in the hands of the average general practitioner of dentistry may prove to be so devoid of accuracy that even tooth forms can scarcely be recognized; in fact, some of the casts made from compound impressions and sent in to the orthodontia specialists for consultation represent more truly a reproduction of the mouths of some extinct species of the lower animals."

It is no argument for excluding compound or, for that matter, amalgam and other valuable adjuncts because the material permits an exhibition of the natural slovenliness of certain operators. Of the hundreds of models that are submitted to me for an opinion, etc., fully one-third are made from plaster impressions. I wish to say that, with the exception of a few of these, they are quite as imperfect as an average number made from modeling compound impressions. The fact is, with the same care and skill the difference in the two results is hardly discernible, and quite immaterial for practical use, especially as one always has the natural teeth and surroundings from which an intelligent diagnosis of all the conditions and relations can be fully observed. A perfect duplication of the sizes of the teeth, the cusps, and even the slightest markings upon the teeth and gums is quite as possible, if necessary, with modeling compound as with plaster. Moreover, there is nothing which will so readily dispel the timidity and fear of a young and nervous child and inspire confidence and even friendly relations, which is so desirable at the start, as the taking of

a simple modeling compound impression. I would, therefore, advise the invariable practice of this proceeding in these cases even though I thought it necessary to take plaster impressions later.

The balance of the critic's argument upon this subject is so overdrawn that it would seem that he places a very low estimate upon the ordinary dental reader's ability and discernment. He says:

"On page 127 Dr. Case states that '*Occlusion* is one of the most important factors for consideration in diagnosis and prognosis.' If this be true, should not the most accurate methods be used for securing perfect reproductions of the dental arches, such as are obtained from plaster impressions? Surely, the accurate interdigitation of the tooth cusps, the facets of articulating surfaces, the rugæ and stipples of the gums, the form and attachment of the frenum labium, external indications of abscesses and other pathological conditions, such as hypertrophy of gum tissue and pyorrhea, are important enough in diagnosis and prognosis to demand an exact copying material, none of these details being accurately recorded in the cast made from the compound impression."

Is it possible that the critic imagines any one so weak to be led to believe that *plaster* impressions are imperative to a successful practice of orthodontia by an argument which so closely borders on the ridiculous, when he attempts to portray in a dramatic manner that a dental model made from a plaster, or any impression, is the proper medium for diagnosing conditions of *pyorrhea*, *abscesses*, *hypertrophy of the gums*, *attachment of the frenum labium*, etc. If the patient is dead, or in a condition or place where the mouth itself cannot be observed, it might help some to have a dental model in determining such conditions, but even then one made from a perfect compound impression would be quite as adequate as from plaster.

Furthermore, to those who believe that dental arches should be expanded in proportion to an exact width measurement of the upper incisors, a labial impression in modeling compound, filled without the necessity of a separating medium, will give a model that is an absolute duplicate of the widths of the front teeth, with an accurate copying of the forms and slightest markings upon the teeth and gums. But after all, why not measure the widths of the teeth themselves with properly constructed calipers, if one needs such exact dimensions, and I might with equal reason say that for every purpose requiring careful, intelligent observation in diagnosis, the natural organs, tissues, and relations are the only true media to be employed.

Thus far I have taken up in their order only five of the thirty-two objects of adverse criticism of this so-called "review" of my book. As they may be taken as a fair sample of the character and weakness of the balance, I need not go further in this reply. I shall, however, in future

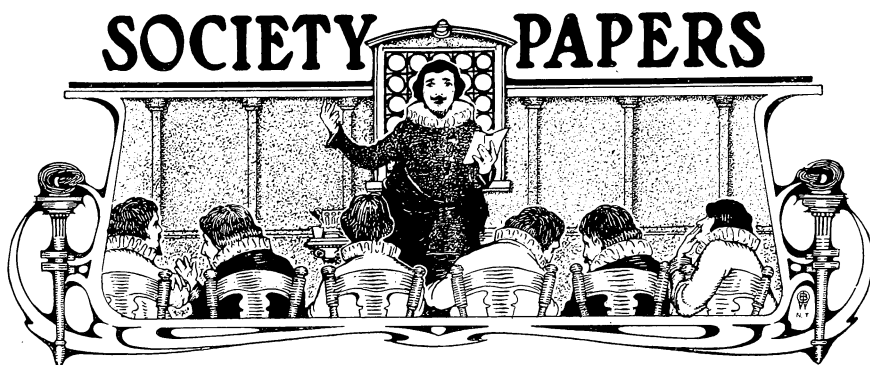
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articles endeavor to show the falsity of certain opinions and propositions which the critic has presented as representative of what he claims as modern orthodontia.

When the principle of homeopathy was announced—"similia similibus curanter"—the reason that it acquired a great following was because it represented a great factor of truth, which, coupled with the fact that it was so arbitrarily practised in its earlier years by the awakened ones in all its most superlatively high delusions, was probably the main reason why it aroused the old school out of its rut, and swayed, and ultimately advanced, the world of medicine as it has—far more rapidly, no doubt, than would have been possible by a less radical determination and practice. But what of it to-day? The advanced homeopaths recognize and practise some of the most advanced and the advancing truths and methods of allopathy; and this is equally true of allopathists in regard to the principles and methods of treatment of homeopathy. So that out of a most bitter fight which was waged for years between these schools—in which petty jealousies, unreasonable prejudices, and false representations of the other played no small part—has arisen a more general knowledge and appreciation of broader, truer principles of medical practice.

While I do not admit that my teaching is the "old school" of orthodontia, because it represents in some of its foundation principles an even more modern advancement than the "new school" teaching, I too fully realize, as may be seen by the free acknowledgment of it in my book when viewed by unprejudiced eyes, that I have been already greatly benefited in my teaching by certain important principles which have been forcibly presented by the "new school" of orthodontia.





The Effect of Caries on the Structure of the Enamel as Related to Cavity Preparation.

By FREDERICK B. NOYES, D.D.S., Chicago, Ill.

Read before the Second District Dental Society, January, 1909.

It is a very great pleasure for me to be with you to-night. The whole occasion has been an unusually happy one for me. I can not quite express the enjoyment that it was to me to be present at the dinner given to Dr. Darby, on Saturday evening, and to have met the guest of honor, whom I have known by name and reputation for years; but I believe that if it had not been for this particular occasion I would have missed the real personal impression of the man, that will be the happiest memory of that evening. I am more glad because what I want to do to-night, and I wish I were better able to do it, is to point to some of the possibilities for the dental profession in the future.

Fifteen years ago it was my fortune to sit as a student under one of the ablest operators that the dental profession has produced. One of his favorite questions was, "What is the logic of filling teeth?" And the answer, which was required in a certain formula of words, was in essence: "Caries occurs at certain points on the teeth. If the affected area is removed and perfectly replaced by an indestructible material, the tooth is less liable to attack than it was originally." To-day this stands as a relic of a past age, but I honor him because it was true reasoning, and was coupled with a technical skill, the watchwords of which were: *Delicacy and Perfection of Manipulation*; and he has left as a monument many fillings which are as beautiful in their perfection to-day as they were when they came from his hand thirty years ago. I say it is a relic of a past age, for it considers filling teeth as essentially the repair of damage wrought by disease, rather than the treatment of a disease.

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The dental profession stands at the beginning of a new era, for it has at last outgrown its jealous fear lest it should not be recognized as an independent profession and only be considered as a part of the healing art, and has claimed forever as its right the treatment of the diseases of the mouth. The phantom of acid saliva as a cause of decay of the teeth at last lies quiet in its grave, and the more restless spirit of hard and soft teeth walks now only on rare occasions.

It is twenty years since the work of Dr. W. D. Miller positively established the fact that caries of the teeth is a germ disease, as truly as is tuberculosis or smallpox, the only difference being that the latter attacks the soft tissues, and their products poison the system, while the former attacks the hard tissues of the teeth, and their products destroys those tissues. It is only within the last year that a work has appeared which, for the first time in the history of the dental profession, presents a close and logical study of caries of the teeth as a disease and its treatment by filling. In this work it is the study of the beginning of decay upon the surface of the enamel; its spreading from the point of beginning; its effect upon the structure of the tissues and their relation to cavity preparation, that is most new and most important, and to which I invite your attention this evening.

It is true that clean teeth do not decay, but the dental profession will never become manicures of teeth, nor be able to prevent caries of the teeth by cleaning and polishing their surfaces, because the human race will never, as a whole, anticipate a disease of which they have never felt the sting. It is true that some time in the future we may so understand the conditions of susceptibility and immunity to dental caries as to be able to produce conditions of immunity in susceptible persons; but if that time should ever come conditions of liability will exist and the patient will not be aware of them until the destruction of tissue has occurred, and filling will be necessary as the first treatment. I do not mean to disparage the value of prophylaxis, nor the necessity for the solution of the problem of immunity; they will be most important aids in the war against caries; but filling will always remain the first and most important treatment. It is evident, therefore, that the time has come when the dental profession must cease to consider filling simply as the repair of the lost tissue, looking hither and yon for the removal of the cause, but must study and practice it as the treatment of a germ disease.

Examination of the Mouth.

In Dr. Black's work of the last few years the amount of tissue injury that occurs in the beginning of caries, before an actual cavity is formed, has been a great revelation and has made evident the necessity for the more vigilant search for and a study of the beginning of the

disease, during the examination of patients. The examination should be a diagnosis of the patient's condition with reference to the disease, not the making of a list of operations to be performed; the former is a professional service, the latter a commercial bid. Moreover, as will be seen from the slides, if the condition is discovered as soon as the action of the acid has reached the dento-enamel junction, the case can be successfully treated by filling with much less injury to the tooth than if the destruction goes on until an actual cavity is produced. It follows, therefore, that caries should be treated in its beginning rather than in its later stages.

**Initiation of
Caries.**

In the study of caries one is first impressed with the fact that the attacks occur at certain points and these are places of protection at which colonies may become attached to the tissue and grow as they do upon the surface of any substance. In this the enamel does not act as a culture medium, but the calcified tissue offers a favorable place for growth because the acid products of the organisms which would stop the multiplication of germs are neutralized by the salts with which they combine. The beginnings in defects of structure may be compared to stab cultures in gelatin—beginnings on smooth surfaces to surface growths, and the effect on the tissue will be better understood if this is constantly borne in mind. Wherever enamel is attacked, a colony is growing.

The conditions which allow colonies to become attached to the surface of the enamel and confine their products sufficiently to prevent solution in the saliva, and allow them to attack the tissue, constitute one of the phases of susceptibility and immunity. It is more than probable that there may be more than one factor in the production of these conditions and that different factors produce various degrees of intensity. It may be long before these factors are determined, but, in the meantime, we must recognize the conditions. In one instance colonies appear in every favorable position and over large areas. In others, they are able to maintain themselves only in some of the most favorable places. In either case we can understand the effect upon the tissue only as we study the growth as a colony. In one case it can grow widely and in slightly sheltered places; in another, it can never get beyond very narrow limits. In one, it shows very perfect confinement of acid, and consequent great intensity; in another, it shows very imperfect confinement of acid, and consequent low intensity. But in all cases it is the growth of a colony whose products attack the structure of the tissue.

The effect upon the tissue cannot be appreciated nor its lessons in regard to cavity preparation, as a treatment, grasped without a study of the cause, along with the effect—and so far it has been the study of the

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effect as recorded in the injury to structure that has given us most of our knowledge of the cause and has pointed the way to investigations of the conditions which govern its activity and intensity.

Etiology of Caries.

The effect upon the enamel of the acid formed by a colony of micro-organisms is, first, the solution of the cementing substance from between the enamel rods. From a study of the effect of caries it is apparent that there is a chemical difference between the cementing substance and the rod substance. Very dilute acid dissolves the cementing substance more easily than the rods, so that the solid tissue becomes full of little crevices between hexagonal prisms. The prisms are attacked on their exposed sides and reduced in diameter. The more dilute the acid the greater will be the extent of the injury before the rods are destroyed or broken. It is evident, therefore, that there are two factors in the character of the attack, the rate of acid formation and the perfection with which it is confined upon the surface of the tissue. A careful study of the appearance of carious enamel indicates that in some cases acid is formed rapidly, but imperfectly confined; in other cases it is formed slowly and perfectly confined, or it may be both rapidly formed and perfectly confined. The two conditions are dependent upon the character of the colony. A recognition of these factors is important in the diagnosis and should have its bearing upon the treatment.

In well-cared-for mouths the confinement of acid under the colonies that occur will be found to be great. In poorly cared for mouths colonies may be found generating much acid, a large part of which is dissipated in the saliva and having little effect upon the tissue. With these facts in mind, the study of the area of attack gives an indication of the intensity and the liability of caries in the case.

Attacks in defective grooves and pits are first to appear, because these places present the most protection for colonies, and in them the process shows the greatest intensity. The action on the tissue is greater at the bottom of the groove or pit, because there none of the acid is lost by solution in the saliva. The acid attacks first the cementing substance between the enamel rods and follows their direction toward the dentine. The enamel rods are inclined toward the groove or pit, and the form of the attack is usually that of a cone or wedge with the base toward the dentine and the apex toward the mouth of the defect. In these positions the acid is often so rapidly formed and so perfectly confined that it becomes concentrated enough entirely to destroy the rods and spread across their direction before the dento-enamel junction is reached at the depth of the defect.

The colony does not grow out of the defect on to the surface, because

the surface is kept clean by use and the products are removed by the saliva. As soon as the dento-enamel junction is reached by the acid, the solution of the salts from the dentine begins to follow the tubules. As soon as any of the rods are destroyed and the organisms are admitted to the dentine, the destruction proceeds very much more rapidly in that tissue, undermining the enamel. The decalcified dentine matrix acts as a culture medium, and the acid formed not only penetrates the dentine toward the pulp, and by the dentinal fibrils excites reactions in the pulp, but attacks the inner surface of the enamel plate, removing the cementing substance and very greatly weakening the tissue. This is called secondary or backward decay of the enamel, and the weakening of the tissue by its progress is one of the reasons for not leaving enamel unsupported by sound dentine.

A view of a series of illustrations is all the argument that is required to show that caries in structural defects should be treated as soon as the action of the disease has reached the dento-enamel junction, and that in the treatment of such cases defects must be followed to their extremity where the margin of the cavity can be left upon a smooth surface. Failure to do this only leaves the opportunity for a new beginning which is not suspected by the patient, because the filling is expected to prevent it, and the destruction will progress until the occlusal enamel and filling cave into the cavity which has undermined both. Further, a defect in the adaptation of filling material to the wall of the cavity produces the same conditions presented in natural defects, and a colony planted in such a defect will produce the same type of undermining destruction.

There should never be any hesitation nor difficulty in determining whether a filling has failed because of defective adaptation or condensation, or whether the cause was the spreading of a colony beyond the border of the filling, and we should be, especially to ourselves, unsparing in our judgment in such cases. Both are failures, one a failure of skill, the other a failure of judgment. It has seemed to me that the profession has been very slow in recognizing the difference between the two.

Before considering the effect of caries on the smooth surfaces of enamel, it is important to notice that the relation of the teeth to each other, in occlusion and contact, and the relation of the teeth to the soft tissues of the gum, are important factors in determining areas of protection in which colonies may grow, and as these conditions change the areas of susceptibility and immunity change. Areas that have been liable to caries become immune, and the reverse. This is important because an attack may occur which injures the tissue, but the portion of the surface

Caries on Smooth Surfaces.

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becomes immune before the dento-enamel junction is reached and the destruction is arrested.

We must study the smooth surfaces of the teeth as furnishing places for the growth of colonies of micro-organisms, which begin at points and spread from them. At the point of beginning the colony will be thickest, and therefore will generate the most acid. The intensity will therefore be greatest here, and also at that point the process has been of greatest duration. The effect upon the tissue, then, is greatest at the point of beginning. There may be several points at which colonies start and spread until they join, as they do on a gelatin plate. In that case there will be several points of greater intensity.

A colony may find a lodgment upon the surface of the enamel and grow for a time, and then be dislodged, but if it has stayed there for a sufficient time the acid will have attacked the cementing substance and will have produced a slightly roughened surface. This will render it much easier for a new colony to make a start and much more difficult for it to be dislodged.

The longer the colony remains, the farther will it spread on the surface, and in this way it may reach areas in which it could not make an original lodgment.

As one examines pictures showing the effect of caries on the structure of the enamel, it must be remembered that the surface was covered by a colony that extended as far as the effect is shown on the surface of the tissue. The micro-organisms were all on the surface. Their acid products attacked the tissue, as far as the cementing substance is dissolved. There is no penetration of the tissue by germs until enamel rods are destroyed or fall out.

We may find large areas where the cementing substance has been destroyed all the way to the dentine. The rods are separated and made to protrude. The acid has decalcified considerable areas of dentine matrix, and still no rods have been lost; the surface is still complete, and the micro-organisms are all in the surface colony.

As soon as the enamel falls to pieces, the germs are admitted to the dentine and the second stage of destruction begins. The destruction within will be much more rapid, and the favorable point for the colony on the surface is lost, so that the spreading on the surface may stop before it had reached its possible limits. Restore the favorable point by a filling and the colony will reappear, overspread the filling, and begin the attack on the tissue at the margin of the filling. It is evident, therefore, that the cavity must include not only the entire area that shows itself to have been covered by a colony, but the area over which that colony could spread.

The study of the appearance of the area of tooth surface attacked, in

terms of our knowledge of the effect upon the structure of the enamel, becomes one of the factors in estimating the liability to caries, and its intensity in any case, and this constitutes the first determining factor in diagnosis and the placing of cavity outlines in treatment.

Gentlemen, I believe there is scarcely a calling in life which presents a more attractive field than dentistry. It furnishes the opportunity for the careful study of many diseases which are far from being understood perfectly at the present time. It offers opportunity for research and investigation. It offers possibilities of a life which is attractive, and it offers to a man of energy the possibility of exercising all the faculties that God gave man, more than any occupation that I know of. I believe fully that the dental profession stands to-day at a point from which it can just begin to realize its possibilities. I believe we have only begun to realize that filling teeth is the treatment of a disease, and that filling operations are not made to repair damage, but to prevent diseased conditions in the future. I believe that we will in the future, just in proportion as we learn the lesson from the men who have gone before us, achieve success not only in practice, but along professional lines. There is absolutely nothing from which we can obtain greater inspiration than the lessons we learn from the men who have gone before us. If we can attain the same respect, the same honor for technical skill, for the ability to do things and do them perfectly, as has been shown us in such examples as the man who was honored last Saturday night—Dr. Darby—and many other men of the old guard in the profession—if we can learn to be proud of a technical skill—not to be ashamed of it, and at the same time can learn to study things not superficially, not over the surface, not four-flushing and making a show, but studying these things carefully and using that technical skill which is our heritage—if we will claim it for ourselves, in the treatment of conditions which we study—the usefulness and efficiency of the dental profession in the future will be far greater than it has been in the past.

Cavity preparation, to be successful as a treatment for caries, must be based not upon Dr. Miller's study, nor upon any investigator's study in the future, but upon each individual practitioner's study of the disease, at the chair, and fillings will be successful as a treatment for caries only in proportion as they are perfect in technic. There is no such thing as a fairly good gold filling as a treatment for caries. It must be perfect, or it is not a treatment of caries. It may preserve the teeth, because immunity or something else may supervene.

Cavity preparation, then, is to be studied, not that our fillings may not fall out, but that we may treat the disease which makes that filling necessary, and fillings are to be made not fairly well, but perfect. A rough surface of a filling, if it does nothing more, is at least a place for

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the lodgment of a colony which, while it cannot attack the filling, will attack the surface which lies next to the filling.

I believe there are more men to-day who can make a gold inlay so well that you could not tell whether it was a gold filling or a gold inlay, than there are men who can make a gold filling so well that you cannot tell whether it is a gold inlay or a gold filling.

As a treatment for caries, no better treatment has ever been found than hammered gold fillings, provided that the treatment is made before destruction has passed beyond the point that it should pass, and provided that the filling is made so well that it is perfect. That, I realize, does not call us to sit at big desks and look wise, but it does give us an opportunity to acquire the ability to use our fingers better than anybody else, and that ought to be one of the prides of the dental profession—not only to use our finger as fingers to make a plug, but to use them as instruments of our brain to treat a disease.

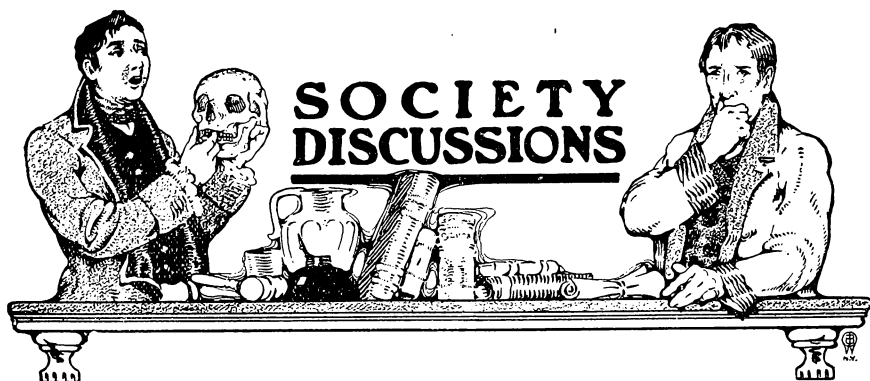
I think, perhaps, I can stop there, with apologies to Kipling, by saying :

“Keep away from dirtiness, keep away from mess,
Don't get into doin' things rather-more-or-less.
Let's ha' done with abby-nay, kul, an' hazar ho ;
Mind you keep your instruments and self jus' so.

“The 'eathen in 'is blindness bows down to wood an' stone,
'E don't obey no orders unless they is 'is own ;
The 'eathen in 'is blindness must end where 'e began,
But the backbone of the profession is *the active practis man!*”

Not now ; to-morrow ; wait a bit.





The Central Dental Association of Northern New Jersey. May Meeting.

The regular monthly meeting of the Central Dental Association of Northern New Jersey was held at Davis's parlors, Newark, N. J., Monday, May 17, 1909. President Brinkman called the meeting to order.

Dr. Sutphen, of the Committee on Free Dental Clinics, reported that there had been several meetings of the committee with committees from various charitable organizations of the city and it had been decided to establish two clinics in the city of Newark. Dr. Sutphen invited the members of the association to proffer their services for these clinics.

Dr. Sutphen also reported that Messrs. Osmun and Cook had promised to give sufficient paraphernalia necessary for a dental clinic.

Dr. Sutphen also said that the committee would be glad to receive the donation of an old dental engine from any member of the society who had one to spare, and concluded by saying that the committee reported progress. Dr. Sutphen said that Mr. A. S. Rutherford, of New York, had offered to make a donation for the free clinics.

Under the head of "Incidents of Office Practice," Dr. Meeker reported the case of a woman who came to him suffering from a badly swollen gum after having been treated at a dental parlor. The patient said that she had paid three dollars for a soft filling, and that it had taken the operator "the whole of ten minutes" to put it in. Dr. Meeker said he cited this instance to show not only the class of work, but the prices charged by the dental parlors.

The president then introduced Dr. R. G. Hutchinson, Jr., of New York, who read a paper, entitled "The Rational Consideration of Pyorrhea Alveolaris and Its Treatment."

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In connection with his paper, Dr. Hutchinson presented a patient for whom he had cured a case of pyorrhea alveolaris, who exhibited his mouth for the inspection of the members.

On motion, a vote of thanks was tendered to Mr. Decker, the patient of Dr. Hutchinson, for his kindness in attending the meeting and submitting to an examination of his mouth, and a vote of thanks was also tendered Dr. Hutchinson for his very excellent paper.

Discussion of Dr. Hutchinson's Paper.*

**Dr. E. C. Leroy,
New York.**

We have listened to a paper of more than passing excellence this evening, but one which is based upon years of untiring effort, and if integrity counts for anything, Dr. Hutchinson has earned the right to say things to us which he has, and we must believe that he is telling the truth as he sees it through his experience.

Dr. Hutchinson has spoken of the rational consideration of pyorrhea alveolaris and its treatment, and has had much to say on the subject; in fact, he has told us so many truths that we must applaud him for his conservatism and yet positiveness.

Near the conclusion of his paper he has the only underscored words—*and the mouth kept clean.*

If the mouth were kept clean throughout the entire period of any given career, it is more than doubtful if pyorrhea alveolaris, or any other dental lesion, would gain foothold, so to speak.

We are gradually awakening to the magnitude of this malady and to the great, great importance of oral prophylaxis, but this awakening is only due to our failures and the needs for overcoming the carelessness or ignorance of our patient, or of some dentist in permitting the extraction of teeth, or in noting the results of faulty tooth restoration or lack of proper prophylactic instruction. Malocclusion of the teeth and accidents to the mouth also play a great part, but I refer particularly to our *failures*. It is through them that we learn, and that dentistry, or the world, for that matter, is to-day recognizing these needs.

Two things worried my early career—the first was pulpless teeth. Eventually that problem was mastered, and as I look back on those endeavors it seems that the success obtained subsequently in restoring many *loose* teeth to usefulness was due to a determination to sustain a certain pride in trying to save teeth and to get above using forceps.

*Dr. Hutchinson's paper was published in the September issue.—*Ed.*

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Furthermore, I had been deprived of several teeth from my own mouth. The discomfort, and, finally, the disfigurement, was so great that the gravity of such sacrifice was always consciously with me.

Let me cite three cases, and you all can supply innumerable others.

Patient of fifty; had always exercised great care
Case I. . . . in personal attention to his teeth, using floss silk, he says, for about thirty years. In that mouth two teeth were lost—one space not closed—gingivitis; in the other space the teeth tipped—pyorrhea; not a vestige of gingivitis or pyorrhea elsewhere.

None of our hypotheses, such as immunity, or predisposition and the like, will apply. In my estimation prophylaxis has kept that mouth otherwise absolutely healthy.

Another case was the case of M. M. B., who
Case II. . . . came to me as a friend and asked my advice in reference to his mouth. His case had been pronounced incurable by his dentist. I insisted that he get his dentist's permission before I could take the case. His dentist had cared for his teeth since childhood, and remarkably well, too. In spite of all care pyorrhea appeared and was pronounced incurable. After my friend had suffered for some years and several teeth became loose, he became alarmed, and then I took his case with permission, gladly given by his former dentist, but with the assurance of the futility of the course. That was twelve years ago. The man has not lost a single tooth since. He has thirty-two teeth, and there are no pyorrhea pockets. These are cases of cures because of the cooperation of the patient.

Now, a word about many of the incurable cases. Dr. Hutchinson might have included in his great majority of teeth requiring extraction those so encompassed by calculus that it is impossible to remove all deposits unless extraction is resorted to; but often that can be done, and after filling the root canals, replanting the tooth with ligation or splinting can be done. By assuring the patient that if distress becomes greater in that tooth than in any other treated, you will remove it, he will generally submit to the replacement for the novelty of the situation, if for no other reason, and you can often succeed in the retention of the same. The special consideration in these cases is not to remove healthy pericementum in the removal of the adhesions, and to use a bland sterilizing agent.

I consider the treatment of pyorrhea by vaccination much more dangerous than the disease. Of course, there are bacteria present in all contaminated sloughing conditions, but would one treat a local infection of an

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unclean wound in any other part of the body, or the local infection from an abscessed tooth by vaccination? We know that would be unwarranted.

I would, and do, very heartily indorse general systematic treatment for establishing tonic reaction which many of our patients require. The fact that they have been absorbing the pyorrhetic virus for years is sufficient to warrant general treatment for toxemia.

I always discuss the subject of pyorrhea with a
Dr. M. T. Schamberg, good deal of reluctance, for the reason that I do not
New York. in any sense pose as a pyorrhea specialist, and feel

it is distinctly the work of a man who confines himself to the treatment of that disease. I do, however, see many cases that have reached a surgical condition beyond the care of the average pyorrhea specialist, and my advice is frequently sought as to whether or not a tooth should be retained, so that I have had sufficient acquaintance with the disease to be able to speak on several phases of it.

I am entirely in accord with the view of the essayist that the disease is one of environments and could not exist without the tooth, and for that reason the main treatment is that which is directed locally. I am confident, however, that local conditions are influenced by the systemic condition of the patient. But that should not detract any way from the measures of value that Dr. Hutchinson puts upon local treatment, because when we endeavor to emphasize the matter from the standpoint of constitutional disease, we shall be likely to neglect the treatment as it should be applied in the hands of an individual who is willing to rid that tooth absolutely of the environment which creates the disease.

There are a number of scientific workers at the present day who, I fear, are on the wrong track. We have all honored Dr. Leary, of Boston, for his study of pyorrhea alveolaris and his microscopical examinations of the pus that has exuded from pyorrhea pockets, and work of that character helps to bring out the truth of the situation. But I do not believe he will ever be able to prove to us that the Vincent organism is the one that produces pyorrhea. I believe we will always find a mixed infection from the organisms that exist within the particular mouth. I have had a number of patients recently reach the hands of physicians owing to the fact that there is an increasing belief that they are suffering from Vincent angina and not from pyorrhea alveolaris, and the physicians are endeavoring to treat it merely by the application of iodine, which we are all using, in a measure, in our practice because we know of the great benefit of it on putrefying matter. I have found Vincent organisms in many mouths, and I do not believe that any of these forms of virus that

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are being used are destined to cure the disease; there is no doubt that they can minimize the discharge, but I can do the same by giving the patient X-ray therapy; but I do not believe that is the proper way to treat pyorrhea.

Dr. Price tried its effect several years ago, and arrived at the result rather accidentally; he exposed teeth of the upper jaw where pyorrhea existed, and protected the teeth of the lower jaw by means of lead plates, and the teeth of the upper jaw cleared up for the time without instrumentation. But he did not cure the condition. He so toned up the local tissues that they were able, for the time being, to conquer the organisms, but the environment of the disease still existed and the condition was bound to recur. So there is no doubt but that there is good cause for Dr. Hutchinson, Dr. D. D. Smith and others to look upon pyorrhea as a local disease. And there is no reason why they should not be enthusiastic, for they have obtained remarkably good results from their local treatment, and in almost every instance have a right to pronounce their cases cured by that treatment; in a proportion of their cases they will find patients who do not do well under instrumentation for the time being owing to a systemic condition. And I believe Dr. Hutchinson will not object to my referring to a case which he sent me recently in which there was a decided inflammation due to what I believe was a diabetic condition or to Bright's, and, owing to the fact that the patient was under the care of a physician, I did not care to intrude my services by making the necessary examinations, and have not yet received a report of the physician. But I am convinced the patient is suffering from a constitutional disease which has hampered Dr. Hutchinson in his effort to cure the local condition, and I, from Dr. Hutchinson's remarks on numerous occasions, take it that he admits that constitutional diseases naturally influence the local condition. But there is no doubt in my mind that the disease is one of environment.

Another point I wanted to bring out is as to the advisability of looking into the mouths of patients suffering from systemic diseases which baffle physicians. Several years ago I had a number of cases of recurring boils come to me for examination of the mouth. One of the patients had been abroad seeking relief from the baths and the various salts used in Karlsbad and elsewhere, for eliminating poison in the system. The treatment improved the patient very much, but I found in his mouth an alveolar abscess discharging through a fistula which had existed for about the same length of time that the patient had had these boils, and which had been entirely overlooked. It was one of those cases of a tooth in the back part of the mouth which did not offer much inducement for surgical interference other than extraction, and the tooth was taken out. The patient had one or two boils following the extraction of the tooth

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owing to the poison which still existed in the system, but he has since been absolutely cured by removing the infection which came from the mouth. So, I believe, many systemic disorders are due to an unclean condition of the mouth, and I am very much gratified to know that Dr. Hutchinson discriminates at an early period in the examination of the mouth between teeth which can be looked upon as favorable for attention, and those which are so badly diseased that they should be removed. I think it a very important point in diagnosis of pyorrhea teeth; I find it so in dealing with cases for surgical treatment of abscesses; there are some that I think it useless to operate upon, and the specialist is oftentimes in a position to discriminate between those cases which should be handled for the purpose of bringing about a cure, and those which should be sacrificed at an early period.

I think I must agree more with the last speaker
Dr. Seward. than with the former, although I would not for a moment discredit the efforts or the work and the results that Dr. Hutchinson has attained, and, no doubt, will attain; but I have been a practitioner of medicine for forty-five years, and at the beginning of my study the germ was an undeveloped theory, and sepsis and antisepsis were entirely unknown quantities. It seems to me I have grown up with them. A most famous gentleman (I will not mention his name unless you ask for it) when I was a student made the broad assertion that in his opinion all chronic diseases had one source of origin, and that was syphilis. Having that in mind, I have watched very closely in a vast number of cases; I have attended four generations in the same family and think I have seen again and again the effect of constitutional predisposition, and I believe that in Dr. Hutchinson's cases, the exciting cause, because of the nature of its location, is profound, and present generally, but I do believe most earnestly that constitutional bias influences it most enormously, and I believe in the great importance of the physician working together with the dentist and endeavoring as far as lies in his power to be in accord with the dentist's work. I do not belittle the local treatment, but you know the most successful treatment of tuberculosis to-day is not the local treatment, but entirely within natural methods of fortifying the constitution with fresh air and other similar precautions.

That covers the whole substance of what I could say; I might talk for some time and simply enlarge upon that point.

If I may be permitted to go a little bit outside, as I said antisepsis was entirely an unknown quantity in my early days, and it was my portion to serve in the medical department of the regular army during the last year of the Civil War, and to see those poor fellows who were injured



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on the field, who received the imperfect attention of the field hospital, and then reached our own general hospital near Fortress Monroe, and to observe the difference in their constitutions. Of course, we had to use very fine judgment because every man was more or less debilitated, exhausted, and it was a difficult matter to cure at all. It was part of my duty at that time to write up the antecedent history, and it was also my duty in part to give the history of the case itself, and in many instances to make the post-mortem. And it is partly from out these experiences that I believe the constitutional bias has much to do with the disease, in the intensity and resistance under any treatment.

I am glad the president called upon me to discuss the paper at this point. The last speaker, to my mind, seems to take a very incorrect position by assuming that Dr. Hutchinson does not include and consider constitutional conditions. It would be absurd for any practitioner, of either medicine or dentistry, not to consider the constitutional aspect; that is absolutely understood as one of the factors in any operation—I do not care what it is—in the mouth. One patient will be exceedingly nervous and you do not go into the tooth of that patient as quickly as you do with one who has no nerves at all; you have to take into consideration the peculiarities of that patient under your care.

What Dr. Hutchinson is doing, and for which he deserves the highest credit, is bringing to the dental profession the truth that ninety-nine per cent. of them do not know how to operate for pyorrhea. It has been claimed that by injecting some virus of some kind you can cure pyorrhea, or that you must give the patient some kind of salt to take, but ignoring all the time the surgical part, which is the prime and important factor. The reason I am opposed to most of the men who take up the other side of the question is the fact that everyone, without exception, makes the statement that, of course, it is necessary to remove the tartar, which is a simple operation. Almost my first case, within a few weeks after I started in practice, was a very bad case of pyorrhea. About four weeks previous to that at the college I was at a clinic by a dentist from out West upon one of our students, and he used iodin and creosote, and tannic acid, and glycerin; and when I undertook my case I found the six lower teeth so loose that I had to use modelling composition around the back of the teeth to support them for fear I would pull them out. Had it not been my first case, I might not have dared to try it. If that case had come in two or three years after I had been in practice I would not have dared to treat it; it was the enthusiasm of ignorance on my

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part that led me to make the attempt, and, sufficient to say, in six-months' time that patient was eating corn off the cob.

Dr. Paul Stillman,
Brooklyn.

There is one point in the essayist's remarks that I wish to emphasize, and that is how greatly the cases improve after the operation has been completed; how, with the cooperation of the patient, a year from the time the operation had been done the mouth begins to assume a normal condition. The traumatic condition that is seen so soon after the operation passes away and the mouth assumes the normal tone of perfect health.

Dr. B. F. Luckey,
Paterson.

For a good many years I have been under the impression that the disease we know as interstitial gingivitis, or pyorrhea alveolaris, was one very difficult to treat, but after hearing our good friend Hyatt from Brooklyn, I have come to the conclusion that it does not amount to much. He has told us how he treated his very first patient and cured him, and if a "kid" can do that in his first six months, what is the use of making all this hullabulloo about the treatment of pyorrhea? [Laughter.]

I believe the whole matter can be summed up in a very few words—and after it is summed up we don't know very much about it. [Laughter.] We all admit it is impossible to cure pyorrhea with the deposits, particularly serumnal calculus, about the roots of the teeth, no matter what the systemic treatment may be; but remove that serumnal calculus and follow it up with proper systemic treatment and there is little or no occasion to fear the results. If we have proper metabolism, proper assimilation and proper elimination, we would never have a case of pyorrhea on God's earth. [Applause.]

Dr. Brush,
New York.

About a year ago there was a meeting in New York where the subject for discussion was pyorrhea; just previous to the meeting a gentleman, who was in the general practice of dentistry, told me that he had great difficulty in getting two dollars for cleaning teeth; that was the limit of his charge for it, and sometimes his patients protested at that. Later on in the evening the same gentleman took part in the discussion and said he did not believe pyorrhea could be cured; by the grace of the president I was allowed to follow him and the treatment I made was. "Gentlemen, you can not cure pyorrhea for two dollars." The average dentist, eliminating the specialist, looks at this matter from the business side. Your patients come into your hands, and you have been in the habit of either charging a trifling fee for the cleaning of the teeth, or of doing it gratis, as the end of your general work. You have charged

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fifty cents for taking a little pumice stone and cleaning the teeth, and have persuaded yourself into believing that the teeth were clean. That is the business side of it; you can not cure a pyorrhea for one or two dollars. It is a difficult operation that requires time, and time is money, and you have to receive a proper recompense for it, and if you will begin to charge a proper fee for truly professional services, then you will become interested in the treatment of pyorrhea from a professional standpoint, and you will begin to get results. [Applause.]

Pyorrhea seems to be very much like what the white plague is to humanity, therefore, it is of great interest to you and to me. For the last thirty-five or forty years I have studied and read about all that has been written on the subject. If the good environment, which my friend Luckey speaks of, existed with us we would never have pyorrhea nor any other disease.

I remember very well when Dr. Riggs, of Hartford, professed to cure pyorrhea, and I have here one of the instruments which I will pass around and show you; there are five of them. A great many gentlemen at that time took up the treatment of pyorrhea exclusively as Dr. Hutchinson has done; among them George A. Mills, under the tutelage of the celebrated Dr. Atkinson, who made the statement that Dr. Seward referred to, that most diseases came from syphilis. I had a patient at that time suffering from this disease who was likely to lose his teeth, and I had him go to Dr. Mills, to whom I gave one-half my fee of one hundred dollars to treat this gentleman, so that I might observe the progress personally, and in less than eighteen months that gentleman lost his teeth. [Laughter.]

One who has been a patient of mine for a number of years has lost all of her teeth with the exception of two, and she has picked out most of them herself. She is seventy-six years of age and her right central and right lateral are the only ones left, and they are as sound and solid and good to-day as when she was twenty years of age. Why did not pyorrhea attack those teeth and remove them years ago as it did all the others?

Dr. Luckey.

Change in her environment.

Dr. Stockton.

There has been no change in her environment whatsoever; she has been practically in the same environment for the last fifty years. But even if she had changed her environment, why have those two teeth remained firm when the others have been getting loose all the time?

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We are told to-night that pyorrhea results from uncleanliness, but you and I have seen men who never clean their teeth, except with the finger, and yet their teeth are solid and strong, and they have no signs of pyorrhea. There are many phases of this problem that are inexplicable, that I can not understand and I am very glad indeed to have just such an exhibition as Dr. Hutchinson brought here to-night.

Dr. Luckey. Dr. Stockton seems unwilling to accept the familiar proposition put forth as to changed constitutional conditions in the case of the old lady with

the two healthy teeth, and I want to ask him if he has ever had in his experience a case of caries of the teeth well advanced that without apparent reason has ceased to progress, where the teeth have glazed over, discolored and lasted for years without any other treatment? I presume he has, and that every gentleman of any experience has seen such cases, and I want to ask him if he does not believe that the only explanation of that must rest upon constitutional conditions.

Dr. S. C. Watkins, Montclair. Dr. Hutchinson was a student of mine, and that is one of the reasons why I am very proud of him, and proud to hear him read the beautiful paper he has presented to-night. Dr. Hutchinson is full of enthusiasm, and that will carry a man a long way; he feels he can cure pyorrhea while many of us think we can not.

For a long time I did not believe that pyorrhea could be cured, but about a year ago Dr. Hutchinson showed me a case which he had treated, a case of genuine pyorrhea which had been entirely cured; the gums were in a healthy condition; there was no looseness, no pus and no inflammation. Furthermore, the case of Mr. Decker, which you have seen to-night, was in my hands; Mr. Decker tried to obtain relief in many places, and upon applying to me I called in Dr. Hutchinson, and there were two upper incisors that I wanted to extract; they were very loose, and I thought that the process was nearly all absorbed. Dr. Hutchinson differed with me, and you have seen the result of that case here to-night, and I was surprised and delighted to see the complete recovery of those teeth which now seem to be perfectly firm, without inflammation and to note the beautiful condition that they are in, and I am now convinced that pyorrhea can be cured by local treatment and that Dr. Hutchinson is the man to do it.

Dr. Brush. Dr. Stockton has mentioned patients whose teeth and gums were in such fine condition, and who, he was convinced, had never cleaned their teeth except with their fingers. One case in my own practice was that of a man who served in the army with Garibaldi, who was in Egypt before it

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was occupied by the British, who has lived the life of a so-called adventurer; he has mingled with the races of the world; his teeth have received practically no attention, and he has twenty-eight teeth in perfect occlusion and without any signs of pyorrhea. Teeth in perfect occlusion are cleaned by the mastication of food and by the action of the muscles of the lips and tongue, and I have yet to see a case of pyorrhea in the mouth of a patient with normal occlusion, or to find a record of such a case among orthodontists.

Dr. Morgan. If local uncleanliness will cause pyorrhea, then we must conclude that men of sedentary occupations are characteristically inclined, as to oral conditions.

But I think it is characteristically the case with bankers, bank clerks and men of this type that they are not; they are fastidious about their personal appearance as a rule, while many of them are sufferers from pyorrhea; therefore, it does not follow that oral uncleanliness is the cause. On the other hand, men who work out of doors, like farmers, are characteristically free of pyorrhea, although many of them seldom have a tooth-brush in their mouths.

I have personally come in contact with a golf professional—a Scotchman, who told me that he had never used a tooth-brush; his teeth were completely covered with salivary calculus, and the gum in contact with it was as healthy and free from inflammation and pus as the gums about the most healthy tooth.

In almost all cases persons suffering from pyorrhea have uric acid, and it seems to me that oral uncleanliness is a secondary cause. We must go further than the local condition in order to cure the disease, and I think we do not do full justice to our patients, unless we suggest change of habit and change of diet.

Dr. Seward. I fear, from one of the speaker's remarks, that some of you may have misunderstood my meaning.

There was no doubt in my mind of the absolute correctness of Dr. Hutchinson's position in this matter; at the same time I feel that the physician and the dentist should work hand in hand. I have referred patients to Dr. Hutchinson but recently, and I know how absolutely essential his work is; at the same time I do feel from my long experience that I can aid in the work very materially. I do not see how the physician and surgeon can get along equally as well in any other way than by working together.

I was rather hoping that the gentlemen might feel it necessary to ask me some questions, because this matter of the general constitutional character of the disease is so well established; but, of course, all

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manner of outside influence come in, and when you take such a portion of the body as the mouth, which is subject to such a great variety of injuries and infections, you can readily see why there is so much trouble from it.

Every practitioner of medicine has observed that some families are much more prone to catarrh or tuberculosis, or similar troubles, than others, and while it is rather a sad thing to make the statement, practically all the chronic diseases originally came from syphilis. The gentleman who first made that statement forty or fifty years ago received a degree from both Oxford and Cambridge on account of his work. Ever since that time I have made scores of observations which bear out that statement, and I suppose not only pyorrhea, but many other diseases are referable to that cause.

Dr. Harlan. Will the doctor give us his views as to the transmission of pyorrhea; and I will also ask Dr. Hutchinson to do so; particularly between married couples?

Dr. Seward. I do not believe in the direct transmission of any disease; I think what is inherited is the tendency—if you understand the distinction. If you, for the sake of the argument, are prepared to admit that there is (no matter whether it be syphilis or something else) a constitutional bias in most of our constitutional diseases, yet hereditary is there. Having watched this, as I say, for forty years, and having attended four generations in the same family, I believe the idea that it skips a generation sometimes is true. I have seen what was tuberculosis in one generation, appear as cancer in the next and the following one, and I am fully persuaded that there is an immense degree of influence in the constitutional bias.

Dr. Harlan. What I meant was the transferring from one person to another—not hereditary taint.

Dr. Seward. We physicians have been in the habit of noting, and it has been reported often in reference to the disease tuberculosis, that a given person may be exposed to infection very positively, yet never contract the disease. I do not think I have ever contracted any sort of disease, acute or chronic, from any patient. You need to have a suitable soil.

Dr. Harlan. I am speaking of the contagion of the disease, the transmission of it.

Dr. Seward. I think that is somewhat out of my field. I think that is more in the dentist's field. If there are certain germs in the mouth, I do not see why it would not be transmitted.

Dr. Luckey. I think he means, is kissing contagious?



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Dr. Seward. I should say it is. I know Dr. Luckey somewhat. I sometimes summer near him, and I should dislike very much to expose him to the opportunity for any such contagion. [Laughter.]

Dr. Morrison. One particular point I want to refer to is the pyorrheal condition when the tooth rotates, and I should like to hear Dr. Hutchinson on that.

Dr. Hutchinson. Concerning Dr. Le Roy's discussion, I should like to refer to a case that Dr. Seward sent me for treatment recently, a young man who is in magnificent physical condition, aside from the fact that he has had, at recurrent intervals, boils or carbuncles. That is an instance of serious constitutional taint which I have no hesitation in saying can be traced to a pyorrheal condition. He has been engaged in out-of-door occupations, and he has a pyorrhea which I judge has taken twenty years to develop. His high constitutional resistance has subdued the symptoms, and has made it possible for several men of good repute and standing in our profession to declare his mouth in perfect condition and nothing the matter with the teeth. When he came to me he was suffering from an abscess which had caused considerable swelling of the face, and on examination I found a very distinct pyorrhea.

The dentists to whom he had been referred for examination stated that the condition had no connection whatever with the teeth. They tested the teeth and found them vital; they seemed to be ignorant of the fact that an abscess can exist at the root of a tooth without a putrescent pulp existing, that very common condition, pericemental abscess. I opened this abscess on the buccal surface of the gum to drain it, and examination showed that the alveolar process had been absorbed; there was considerable roughening and necrotic condition, and after an interval of about forty-eight hours, the acute stages having subsided, drainage was established through the gingival margin. The abscess had doubtless occurred through a contraction of the gingiva, causing the development of the abscess from the stoppage of the drainage which had been taking place so many years. He was treated for pyorrhea, and every bad symptom has disappeared, and there is evidently a cure. Nor was that the only diseased tooth in the mouth; practically all over the mouth a well-defined condition of pyorrhea existed, and yet the gums appeared to be healthy.

Furthermore, this patient has kept his mouth in excellent condition latterly, at least, and I am confident that the disease began at a time when he was not so careful. I have no doubt that the case Dr. Morgan cites will be found to have a well-advanced pyorrhea, without the external symptoms which most men look for.

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Dr. Luckey spoke of that ideal condition in which there is perfect metabolism, perfect elimination and perfect assimilation, under which we will have perfectly normal physiological conditions, and there will be no disease of any kind, but the point I want to make most strongly is that in spite of predisposing constitutional conditions, in a great majority of cases, we can restore health to the tissues without recourse to constitutional treatment.

The failure to keep the mouth clean is responsible in fully ninety per cent. of the cases that develop pyorrhea. In as many as ninety per cent. of the cases the profession is directly responsible for the development of pyorrhea in the mouths of patients who are under their care. If the patient is under the care of the dentist and he maintains perfect oral prophylaxis and hygienic conditions there can be no pyorrhea. In connection with that I would include seeing to it that there is nothing that irritates the tissues mechanically, that the occlusion is correct and that no excessive pressure is brought to bear on any particular tooth. The mouth can not be kept clean by the average patient unless he is properly instructed and unless he reports to his dentist and follows out his instructions, but it should be the duty of every man who has his degree of Dental Surgeon to see that his patients maintain clean and healthy mouths.

I have never yet had a case of replanting of teeth; I have anticipated doing so a number of times, but in every instance, on extraction of the tooth that I expected to replant, I have found either the environment or the tooth itself in such a condition as to lead me to believe that it would be worse than folly to attempt replantation.

I was very much pleased with Dr. Schamberg's endorsement; I had thought he would take a very strong stand on the constitutional side, and I value his endorsement, for he is in a position to speak authoritatively from the standpoint of the odontologist and physician. He is right in assuming that I admit that certain constitutional diseases have a decided influence on pyorrhea, but a mistake is often made by considering such conditions as the cause of pyorrhea instead of complications which prevent a cure.

Dr. Schamberg also referred to the research work of Dr. Leary. At a recent meeting in New York Dr. Leary stated that he began his investigations because certain friends of his in the dental profession had stated that the etiology of pyorrhea was unknown and that it was as yet incurable. Dr. Leary has been misinformed. Those who made the above statement undoubtedly believe that such is the case and their opinion is based on their own knowledge and experience, but there are others who can tell quite a different tale.



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I want to express my sincere appreciation of Dr. Seward's presence and of the discussion which he has given us, and to assure him that I have always held that untold good must result from a more intimate co-operation between his profession and ours.

The removal of teeth that have reached such a point that their retention can not be had with healthy conditions of environment, should be effected at once. We often make a mistake in trying to retain teeth that can not be rendered aseptic; if the tooth can be retained only for a short time and ultimately must be lost, the sooner we get rid of it the sooner we can establish healthy conditions in the mouth.

Dr. Brush spoke of the fee. It is preposterous to expect any man to give up his time and render service unless he is properly compensated. The matter of occlusion referred to by Dr. Brush is one of great importance. I have seen cases of well-developed pyorrhea where there was perfect occlusion, but the mouth was neglected and in a filthy condition. He spoke of resistance as neutralizing the effect of the decomposition of matter, and I believe the day will come when we will have demonstrated to us conclusively that there is an inhibiting power in the oral secretions which accounts for the absence of pyorrhea and caries in mouths in which conditions apparently favorable to both exist, and that these oral secretions prevent bacterial action.

We need never have complete failure; I have seen hundreds of mouths which have been affected, but never one where all the teeth need be lost; no matter how aggravated the conditions are, some of the teeth can be saved and health restored by the treatment of some teeth and the extraction of others that have gone so far as to make their retention out of the question.

Second District Dental Society. Fortieth Annual Meeting.

The fortieth anniversary meeting of the Second District Dental Society of the State of New York was held on Monday evening, January 18, 1909, at the Kings County Medical Library Building, 1313 Bedford Avenue, Brooklyn, N. Y.

The President, Dr. Hillyer, occupied the chair, and called the meeting to order.

The Secretary read the minutes of the previous meeting, which were approved. All other business was suspended.

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President Hillyer extended a hearty welcome and the privilege of the floor to all the guests of the evening, and then introduced the essayist, Dr. Frederick Noyes, of Chicago, who read a paper entitled "The Effect of Caries on the Structure of the Enamel, as related to Cavity Preparation."

Discussion on Dr. Noyes's Paper.

Dr. E. C. Darby,
Philadelphia.

Mr. President and gentlemen: I need not congratulate the author of this paper upon the paper itself and the beautiful slides which he has shown. The congratulation goes with the work itself. I do not know that I ever saw more beautiful slides, and I appreciate what it means to make them, for I have done something at it myself. Those of you who have not, do not know how many hours of work those slides represent, but it goes into the hundreds of hours. The paper needs no discussion, in fact, there is nothing in it I should discuss. Such evidence as Dr. Noyes showed us is sufficient, but it has given us a field for thought in connection with prophylaxis, especially on all smooth surfaces, approximal, labial and lingual, points that can be easily reached. If these plaques of decay upon superficial or plane surfaces can be polished off, why cannot the disease be arrested? One of our greatest advocates of prophylaxis, who lives in Philadelphia, and who, it gives me pleasure to say, is in the habit of doing very beautiful work and showing very beautiful clean mouths, takes the ground that if his patients will come to him regularly, they will never have cavities of decay. It is claimed that that is possible, or probable, of all surfaces that can be polished; but it would not be true in the fissures or sulci, in the surface or places that cannot be polished.

Pardon me if I make an allusion to my own family, if I say it is possible to keep these bacteria so changing from spot to spot, or in motion, that their work may be inhibited or prevented. When my children were small, as soon as their permanent teeth had erupted, and before the four incisors were present, I would take them into my chair, about once a month, and polish between their teeth. I polished first with fine emery strips or corundum strips, then with linen tape and oxid of tin, or fine chalk. They have all grown to manhood and womanhood now, and with the exception of one, my children have no cavities in their teeth. I did not deface the teeth, but I took considerable away from the lingual surface, using my floss tape with a swinging motion, carefully towards the labial surfaces, but not regarding the lingual surfaces so

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much. This has gone on twenty years or more, in their cases, and they are free from caries. Undoubtedly those teeth would have decayed if I had not polished those surfaces.

If that prevents decay in the anterior teeth, why is it not practised by some men who lay so much stress on their prophylaxis? I believe it is possible to prevent decay.

There is one other point that I would like to touch on, but I will not speak long, as the hour is late. Dr. Noyes has hinted at the fact that dentists, as a rule, do not cut extensively enough in the enamel tissue. He has shown the penetrating and spreading caries that penetrates first in the form of a cone in a direct line toward the pulp, the base of the cone at the enamel line, and the apex towards the pulp; and he has shown conclusively that the man who does not cut extensively at the enamel surface does not reach the bacteria that are up under the enamel; therefore, if he does not enlarge his cavity at the enamel margin, he does not reach the plaques or nests of bacteria that are just under the enamel margin. The destruction is in a direction first toward the pulp, and then spreads out under the enamel and destroys that largely from the dentinal side. Hence, we find caries small on the occlusal surface where the initial point was small, but it spreads out until the whole mass caves in, and we have a large cavity involving sometimes the pulp and a good part of the occlusal surface.

I cannot agree with Dr. Noyes that the filling must be absolutely perfect. Absolute perfection is rarely attained in any sphere of life, by the artist or the artisan. We come so near it, perhaps, that thousands of teeth have been saved for many years; but if compelled to have absolute perfection in every instance where teeth are to be saved, we should not save as many as we have saved.

I do agree, however, that anything short of approximately perfect fillings will not save teeth. We see sometimes teeth filled with tin-foil. I think the substance with which we fill them has something to do with it. In a tooth filled with tin-foil, although perhaps not perfectly filled, and not in perfect adaptation at the margins, we have an oxidation or sulphid of tin that is an antiseptic, and saves that tooth in spite of the fact that the filling is not absolutely tight. I have seen fillings that were not perfectly tight that saved teeth, and you have also seen gold fillings that were not perfect that saved the teeth. Especially so, however, is it true of tin.

I think the doctor was a little broad in his statement that absolute perfection is necessary in the filling to save the tooth.

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Dr. A. E. Swift,
New York.

I believe that the essayist's paper, as Dr. Darby said, opens a new field in which we have all been more or less interested, that of oral prophylaxis. The doctor referred to enamel margins which were not affected, which he advised should in all instances be removed. I think that we all believe that, and we all teach that, but I believe there are instances where for esthetic purposes—in the front of the mouth—we are sometimes justified in allowing the labial plate of enamel to remain, even when it is not protected by dentine. I know I have had personal experience with a number of cases which have stood the test of sixteen to eighteen years' service, where I felt it was not wise to cut away the labial plate, notwithstanding the fact that it was entirely unprotected; of course, taking the precaution to reinforce it with oxyphosphate cement first.

Dr. T. Norman Broomell,
Philadelphia.

I was pleased when Dr. Noyes brought out, along with his strong points in dental histology, the practical connection which he so beautifully shows. It is not often we find scientific theories associated with common sense. Dr. Noyes has shown us both these things to-night. He has shown us that a knowledge of the histology of the tooth tissues is of vital importance in successful operations upon the teeth. I believe we too frequently forget the histological knowledge that most of us have, when we wish to put it into practical application. Can we for one minute believe that the knowledge which we possess regarding the growth and evolution of the teeth has no practical application? I think not. Neither can we forget the arrangement of the enamel rods in the crowns of the teeth because that has also a practical application, especially in the preparation of the cavity.

I anticipated that the speaker would refer to the question of extension for prevention, which he did touch on slightly. This is a matter which he has heard me speak of before, to the effect that I have not understood just what it means. A few days ago I looked up the subject in a recent text-book, and I found I had been very much mistaken as to what it meant. It has been made clear to-night what extension for prevention means. In Eastern cities, especially Philadelphia, a large number of the men believe that the Western idea of extension for prevention means to cut without regard for tooth structure, so that there may be no further decay. The illustrations shown to-night, and the explanation of Dr. Noyes, has made it very much more clear to me that the idea of extension for prevention means especially to cut out all the infected tissue.

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Influences of Environment on Caries.

The speaker says it is true that clean teeth do not decay. I would like to add to this, and it may be a surprising statement, that it is also equally true that not all dirty teeth decay. I would like to substantiate this by saying that within the past week, anticipating this discussion, I brought into my office six boys and three half-grown men, picking them up from the street—two of them were elevator boys—and I examined their teeth. None of them had ever made use of a tooth-brush, and in only one mouth did I find any evidence of caries; so, while in a measure cleanliness is essential to the preservation of the teeth, nevertheless, they do not always decay when they are dirty. This is not an argument at all in favor of not keeping the teeth clean [laughter]. I would also like to state in support of this argument, that there is something else besides lack of cleanliness which causes decay of the teeth. I believe constitutional conditions have much to do with it. I know it is an old subject, but I would like to cite two cases out of many which I might relate from my own experience; not only do constitutional conditions have an influence, but also environment and occupation of the patients.

I recall the case of a man who for twenty years had been a book-keeper in a banking house. He was a patient of mine, and as long as he remained in that confined condition, without outdoor exercise, his teeth continually decayed. The decay was of such a character that it was almost impossible to control it. Finally, his health became so poor that he was obliged to change his occupation. He secured a position with a trolley company as manager of a suburban trolley line, and in this new occupation he was surrounded by far different conditions. Very much to my surprise, inside of two years the decay in his teeth had ceased. Previous to this time all efforts on my part to fill the teeth met with defeat, simply because of the fact that the structure of the teeth did not appear to be sufficiently strong to support the filling material.

Another case was that of three children in one family, who were practically free from decay up to about the twenty-first year. At that time each of them successively developed tuberculosis, and with the appearance of this disease their teeth began to degenerate.

One of the most astonishing assertions which the essayist made was this, which I shall quote: "The dental profession stands at the beginning of a new era, for it has at last outgrown its just fear lest it should not be recognized as an independent profession." I take it from this that Dr. Noyes has a desire that we should continue as a separate profession, distinct and apart from medicine. I believe the opinion is largely held in Philadelphia that the sooner we become a part of the medical profession

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the better off we will be, and the higher our standing will be. In fact, I believe there is a disposition to-day, and I hope before many years to see the idea carried out, that a dentist should first take a medical degree, and then specialize after that.

Dr. H. R. Starr,
New York.

I have been a great deal interested in this subject for some years past. I confess that when this question of extension for prevention was first brought out, I was somewhat skeptical, and was inclined to be an unbeliever, because it was not my habit to resort to that method of practice; but upon considering the arguments brought forth in defense of the theory, I also confess I have in a great measure changed my method.

I do not think Dr. Broomell has quite grasped the idea yet. I think it implies not only the removal of infected tissue, but the extending of the cavity lines from areas of susceptibility to areas of comparative immunity.

Dr. F. B. Noyes.

That is a very fair definition, Dr. Starr.

Dr. I. N. Broomell.

In that case I do not believe in it.

Dr. H. R. Starr.

That is my idea after the reading of Dr. Black's works and others. I do not believe in its universal adoption, however. I believe there are exceptions, that there are cases where it is not necessary for us to resort to wholesale extension. There are conditions which should modify our practice. We should consider the immunity or susceptibility of the patient, the location of the cavities, the occupation of the patient, the esthetic conditions and many other things, before we use this wholesale extension for prevention with a view of preventing recurring caries; but in the majority of cases I believe it is a good plan to follow. I have seen many cases where I have filled and refilled teeth, beginning as small cavities, and refilled them when they were somewhat larger, because of the recurring caries, until finally Nature accomplished what I should have accomplished in the beginning: when the margins were extended to areas of comparative immunity; then the fillings I put in lasted for an indefinite time. So I do believe in this theory of extension for prevention in the majority of cases.

I believe with Dr. Noyes that there is no profession in which there is a larger field for scientific research. We should not only have mechanical ability and manual dexterity, but the dentist, to be successful, should also have a certain amount of scientific knowledge and attainments. He must also be an artist, and a bacteriologist, histologist, pathologist and chemist. Especially in the consideration of the subject of prophylaxis,



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I agree with the speaker who said we should consider the general condition of the patient with relation to oral prophylaxis. Not only this, but the effect of the general bodily condition, or the effect of metabolism upon local secretions, etc., may to a great extent be responsible for the condition.

I also believe in the theory advanced by Dr. Williams, of London, as to the etiology of caries; in regard to the presence of the microbic plaques on the surfaces of the teeth, as mentioned by the essayist, and we should endeavor to find out some means of preventing the occurrence of these gelatinous plaques, or their removal in some way which will not injure the tooth structure.

I came over to-night for the express purpose of listening to this paper, and perhaps to say something on the subject, but the hour is very late—why, Mr. President, in Chicago we are all in bed by this time! [Laughter.]

I want to express my appreciation of the paper and the manner of its presentation. It is a very impressive lesson to us as operators, and it is a practical paper. I want to emphasize two things—one is the fact that it argues for early operations in these defective teeth. Some of those slides represent to us sections in which the examination of the surface of enamel with exploring instruments would hardly reveal anything to us; and yet the acid had gone down and made known its effect almost to the pulp. It involves a most careful examination of the teeth of children when they come to us.

The other point is that the practice of dentistry is not mere mechanics—not simply plugging a hole in a tooth, but a constant study of conditions which surround the operation which we are performing. Any man who goes on day after day merely inserting fillings of gold or amalgam or whatever he uses, is not living up to his reputation as a dentist. [Applause.] It is not only in operative dentistry, but in prosthetic dentistry (an investigation of the relation of force in bridgework for example), that this kind of study will make broader and better men of us. It does not emphasize any particular line of practice, but the necessity for a broad study of conditions in the practice of all our work.

I will not undertake to discuss the paper; it is out of my line; and as Dr. Darby well said, it needs no discussion. I only want to express my great delight and appreciation of the many times I have listened to my friend, Dr. Noyes, in similar papers, and they are always of that high and excellent character—a class of papers that all can learn

Dr. E. H. Angle,
New York.

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and profit from. I think the paper this evening was fine, and I am especially well pleased with it; and again I must say I am proud of my friend, Dr. Noyes.

**Dr. J. Bethune Stein,
New York.**

I do not know why I should be called upon this evening. I came here to learn something, and I have learned something, and that is the importance of the study of histology to the dentist. I have seen many of Dr. Noyes's pictures, and they certainly have impressed me with many points in the enamel, which bring up questions with regard to the dentine which underlies the same. It is a tremendous field for thought.

**Dr. W. VanBrunt Ames,
Chicago.**

I am always delighted to have a chance to see Dr. Noyes's excellent slides on the screen, and compliment anybody who has the indefatigable energy to carry on such work. There is one slide on which he dwelt particularly—showing that abnormal condition—that cone-shaped condition reaching directly toward the pulp, which can be so easily seen by any one making sections of the teeth. Even from my own crude efforts I was surprised to hear Dr. Noyes say that this was not a semi-decalcification of the dentine. I wish he would have something more to say about what he thinks this abnormal condition is. I understood him to say that it is a change of the organic material rather than a decalcification. I know it readily takes a stain. I have seen the effect of filling materials which will cause a stain, and I have made the statement that certain fillings would give a stain which would take this cone-shaped form; and I am extremely curious to know what this is, if it is not a decalcification.

**Dr. D. J. Shields,
New York.**

I wish to add my commendation of the beautiful paper and slides. He sizes up the entire situation in the one phrase, "depending upon the judgment of the operator." According to most of the illustrations to-night, the operations necessarily would be upon very young people. In young people the pulps are at their largest diameters, and if the extension is very great, you also bring about a corresponding amount of irritation within the pulp, as was beautifully described in the slides. He did not make a single description, of a single slide, wherein caries attacked a tooth in any diameter, that you did not see that in the pulp, at the point of the decay, a calcified mass had formed; therefore it was impossible for those fibrils to be dead, or anywhere near dead, if they carry out the office of transmitting within the tooth the irritation manifested externally.

Extend the cavities, to be sure, but with great judgment, knowing that the pulp is at its greatest diameter in young people, and also use

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judgment with regard to the filling material used. You can use filling materials that are exceedingly irritating. We should know that, and fill the tooth with a filling most compatible to the tooth structure.

When we reach the age of about forty—between forty and sixty—that is when we reap the reward of good dental work in early life, because in this strenuous age, as the essayist says, as we advance in life, the blood in the capillaries does not circulate sufficiently, and, from the anatomical relation of the pulp to the tooth, it is absolutely impossible to have any exposure of the dentine without having a corresponding irritation of the pulp. I have made these statements in New York and Boston, and have been sustained in this paper and in the paper of Dr. Black, and I most heartily endorse this paper, and add these few earnest words: "Be doubly careful in regard to the fillings in young people, in order to look forward to the time when they are from forty to sixty years old, so that you may do nothing to cause irritation of the pulp, which would cause the tooth to decay earlier than it would otherwise."

In regard to what Dr. Darby said about perfection, perfection is a great word, and I realize that one needs to have some enthusiasm for perfection, or he never will attain it. Unless one admires perfection and loves it—unless it is his ambition—he will be only too willing to be satisfied with "good enough."

Fortunately for humanity and for the dental profession, many operations which are far from perfect remain useful for long periods, if not permanently.

Just in proportion as the conditions are bad, just in proportion as the tendency to decay is great, just in that proportion must the operation attain to perfection, or it is useless. It is the case that most needs the operation that must have the most perfect operation, and the filling that is only a little imperfect will fail in those conditions. So perfection must, I believe, always be the ideal in the treatment of caries by filling.

Dr. Starr has partly answered the question about extension for prevention. Dr. Broomell certainly does not yet understand what is meant by extension for prevention; the statement he made is exactly that which it is not. I like the definition which says extension for prevention is the preparation of cavities as a treatment for caries as a disease. That covers the whole proposition.

Dr. Black never said cut here or cut there, but he did say that it is necessary to go from regions of greater liability into regions of less liability. He has said that it is often necessary to cut away tissues which are not attacked at the present time. Why do you cut that away? You

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know from a study of the case that the disease will involve that area, and because you know that, you cut it away.

That does not mean you should not use your judgment, and that you must not go further in one case than another. It means that the preparation of that cavity is the treatment of the disease in the case.

One speaker entered into quite a discussion of susceptibility and liability. That is aside from the paper, but as soon as we stop picking out isolated cases in regard to susceptibility and liability, and begin to study the relation of facts to each other in a scientific way, we will begin to make some progress on the subject. It has been the bane of the dental profession, that we will pick out a special instance and say, this imperfect filling has not decayed. You may pick out a thousand, but such argument is not worth a snap of the finger. Science is not the observation of facts, but the observation of the relation of facts.

The phrase I used I see was misunderstood, that is, I do believe we stand at a new era, because the dental profession has ceased its jealous fears lest it should not be recognized as a separate profession. It makes no difference what we think we are. We are something, and no matter what we call ourselves, we are and always were, and always will be and must be, a part of the healing art, and the healing art constitutes the medical profession. That we are independent from the medical profession as a specialty is true; but dentistry always was, since it was anything but a trade, the treatment of the diseases of the mouth, and the treatment of disease is the sphere of the medical profession as a whole. We must of necessity be a part of medicine.

In regard to Dr. Ames's remark, he is exactly right in everything he has said. The only thing I would like to add to that idea is that beyond the point of partial decalcification you have effects which are very apparent, that I do not think we know anything about. I do not know anything about it, and I do not like to make statements about anything I do not know. Something has happened beyond the area of partial decalcification.

Finally, just as a closing word, we should cease to be superficial, and skim around the surface of so many things, but get down to a closer, more accurate, deeper study of the things that are most vital to us. Instead of spreading over everything, the dentist should study not superficially but deeply the things that concern him, and take a view of dentistry that is bigger than we have done heretofore—and by bigger I mean down deep, and not bigger on the surface—and realize that to study the diseases of the human mouth and their treatment is a field which is big enough to attract all the energy of the ablest men of the world, and that it will attract that energy for a long time. We must not

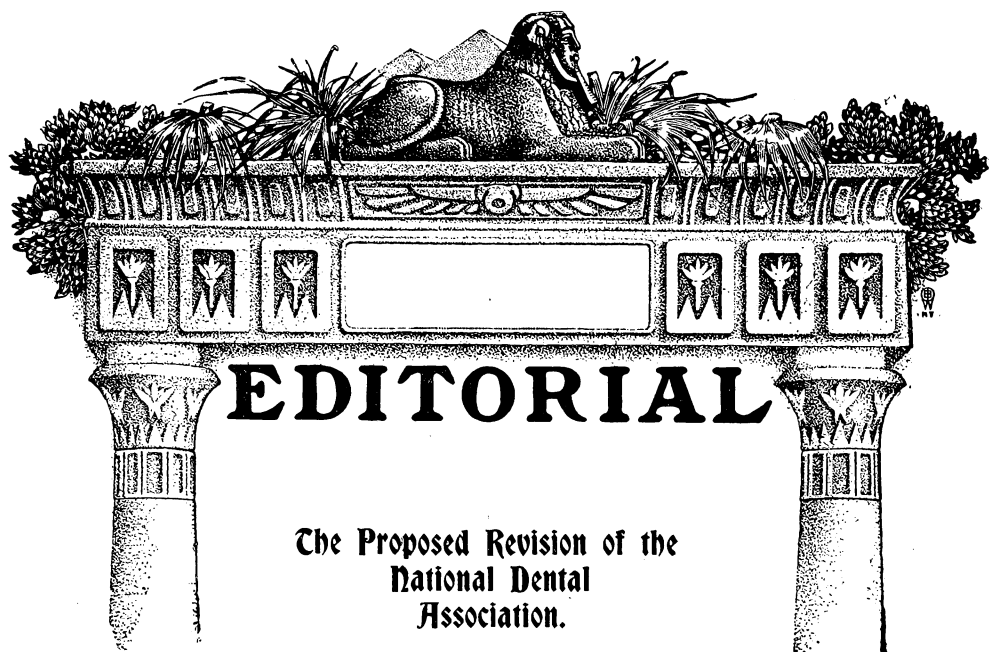
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spread over the surface of everything, but study down deep into those subjects. Now dentistry is too big, and for that very reason dentistry will be and is already subdivided. Because I cannot spread over everything, I have chosen to confine myself not to all the phases, but simply to the relation of the teeth to the development of the face, which is a very different subject from the disease of the mouth; and the two lie in such different lines of thought and study and work, that I do not believe a man can follow both, for either one is big enough to take all his energy and all his ambition. I believe a man who makes a study of the diseases of the mouth, and practises their treatment, can occupy himself in that field so well, and find so great an outlay for all his energy, that he will find himself more and more leaving the replacement of lost members to someone else. And so, as members of the dental profession, I appeal for a greater pride not in superficiality, but in depth of thought and perfection of skill.

A very hearty vote of thanks was tendered to the essayist for his excellent paper.

There being no further business, the meeting then adjourned.





By taking up the problem of a revision of its constitution, the National Dental Association has reached an important crisis in its history. It has arrived at a parting of the ways, and there are two signboards equally prominent. The one, pointing straight ahead, bears the word "Revision," and the road which it indicates is evidently the beaten path and the machine may easily be steered along the old familiar rut. The other signboard reads "Reorganization." The road is at direct right angles with the old highway, and, seemingly, only one or two associations have attempted the grade. From these, however, come the word from the top of the hill that "the view is fine." Query: "Will it be worth while? Can dentistry make the ascent as successfully as medicine? Shall we reorganize or merely revise?"

This is the problem which was given, after the Boston meeting, to a special committee, and this committee at Birmingham reported in favor of revision. The printed draft of this proposed revision has been mailed to members, with the understanding that it is but a tentative proposition, and that at Denver it or any other constitution, or any substitute, may



be offered and adopted, if it gets the votes. Consequently, there can be no objection to a dispassionate discussion of the suggested changes.

First, however, a word in connection with re-
Reorganization. organization. What should a national association be, and does the present National Dental Association comply with the requirements?

The very name of our country affords a hint of the model by which we should build. We are the United States, that is to say, "States, United." The central government protects and guarantees the sovereignty of the separate States, while the States guard and maintain the power of the Union. This pattern for a government, given to the world by our country, has been successful wherever copied, and all republics have proven abortive which have tried different plans.

In like fashion, and certainly in this country, where every man is brought up to believe that all men have equal rights, the model National Association, whether for dentists, doctors, dressmakers or drovers, should have a constitution which would provide that the National body should be the sum of the State associations, while the State associations should be constituent integers of the National: and just in proportion as an organization departs from this principle will it become a society rather than an association, and in equal ratio will it lose national significance.

Is the dental world ripe for the formation of a real national association, patterned after the American Medical? This is, of course, an important question, which the Revision Committee has answered in the negative. And the committee is probably correct. But surely the time for such a movement is rapidly approaching. Yet, if one dare to say, "If the National Dental Association does not reorganize in imitation of the American Medical, it will see another National Association," such person is said to be uttering a threat. But this is no threat, it is merely a prophecy.

"Coming events cast their shadows before them," and the premonitory shadow which foretells a great American dental association already falls across the broad area of nineteen States. The so-called "Illinois plan," which in effect is the State organization plan of the American Medical Association, has already been adopted, or is being

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seriously considered, by Illinois, Pennsylvania, New Jersey, Ohio, Indiana, Kentucky, Michigan, Wisconsin, Iowa, Missouri, Minnesota, South Dakota, Nebraska, Kansas, Oklahoma, Colorado, Washington, Oregon, and California.

The adoption of similar constitutions by so many States is the most successful effort at cooperation ever attempted in dentistry, and such cooperation can have but one aim, but one end: "Association!" "National Association."

If the present scheme for revision of the National does not better the old conditions, a convention will be called by some of the above-named States, and at that convention the American Dental Association will be formed. Again, be it said, this is not a threat, it is a prophecy.

The booklet containing the suggested revised constitution tells us that "all matter shown in italics are changes in the constitution." The first revision is found in Article IV, and deals with the question of membership. It reads as follows:

The Proposed Revision.

SEC. 2. DELEGATE MEMBERS.—*All members shall be practitioners of dentistry in good standing in their State dental societies or allied societies; or members of permanently organized local or collateral dental societies, and shall be eligible to membership in this Association by presenting to the proper authority, at the regular meetings, a certificate signed by the president and secretary of such societies. The Executive Committee shall determine what constitutes a permanently organized local or collateral society.*

Members of the army dental corps shall be entitled to act as delegates, or become permanent members, upon presentation of credentials from a superior officer.

This section is open to several objections. The most important is that it departs from what should be the most vital duty of a national association, viz.: protection of the State society. There should be but one entrance to the National Association, and that should be through the gateway of the State society. Such a course fosters harmony and concrete association. The recognition of many heterogeneous societies actually invites division and disintegration of the dental body. It gives opportunity for every sorehead, or aggregation of soreheads, to organize a separate society in their localities, safe in the assurance that it will have the same rights and recognition from the National as though it



were a State society. Thus the National must become the foe rather than the friend of united State organizations, since it gives comfort and shelter to those that prefer societies with limited and selected membership, rather than the regular State organization with its constituent local units, into which any decent dentist should be eligible for election.

Besides being wrong in principle, the section is badly worded, since it is ambiguous, and ambiguity should be carefully expunged from any constitution. We are told that delegate members may come from "State dental societies or allied societies." What does this mean? Is it intended to say that delegates shall be members of State societies or of their constituent local societies? If so, the word "allied" is unfortunately chosen. The "district society" in Illinois or in New York is a constituent part of the State society. That which is "allied" to, cannot be "a part of." If the constituent local or district society is not what is meant, then what are we to understand by "allied?" This is not carping criticism. The question is raised in good faith. The language is not definite, and as it deals with a most important subject it should be, beyond question, plain.

The next is open to the same objection. Delegates may also be "members of permanently organized local or collateral societies." One may comprehend what is meant by a "permanently organized local society," the Odontological Society of New York, for example. But what is a "collateral society"? Later it is stated that "the Executive Committee shall determine what constitutes a permanently organized local or collateral society." But why should this be left to the Executive Committee? Why should not the constitution itself be so clear that its interpretation need not be referred to an executive committee? Of course, it may be meant that delegates may come from any local society recognized by the Executive Committee as sufficiently important, but if so, why not simply say "or from such local societies as may receive the indorsement of the Executive Committee?"

Such argument may be called quibbling, but this very question of receiving delegates from other than State organizations has caused trouble for the National many times in the past, and if the Association chooses to adopt such a foolish course, at least the language should be so plain that there can be no "quibbling."



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The next new proposition is contained in Section 4 of the same article and reads as follows:

SEC. 4. State or territorial associations may elect to become, as a body, constituent members of this Association, and each member of such organization shall thereupon become a permanent member of this Association.

This is an invitation to State associations to join as a unit, an association which is not constructed of similar units, and which does not promise protection to the State organization, but which on the contrary accepts members from other societies in the same State, which, most likely, are antipathetic to the State society. On the other hand, should any State accept such an invitation and join as a body (at reduced rates; see Article V, Section 2), it could completely control any annual meeting which might be held within that State, thus having more power than is held by other States.

This is a very poor attempt at imitation of the American Medical Association. This provision makes a State society, joining as a whole, a constituent part of the National, giving each member thereof a vote, on a parity with all other members. This is not the method of a national body, it is the method of a local society. The American Medical receives all States on exact equality, that is to say, in proportion to their membership. Each constituent State society in the American Medical Association has representation in the House of Delegates in proportion to its own membership. Thus, every one hundred members of the American Medical Association has exactly the same voice in the management of affairs, regardless of what State or locality they may reside in. This is real organization. The plan presented by the Revision Committee is merely a bid for members.

Article V brings us to the question of dues, and reads as follows:

Dues.

Section 1. Dues.—The annual dues of this Association shall be five dollars (\$5).

SEC. 2. The annual dues of each member of a constituent State association, or branch association, shall be two dollars (\$2), and same shall be collected and paid into the treasury of this Association by the treasurer of each constituent or branch association.



Section 1 is from the old constitution; therefore the bad grammar is not attributable to the present committee. Presumably it is meant that permanent members shall pay five dollars annually as dues, but the language as it stands is indefinite, to say the least. But Section 2, introduced by the committee, will bring trouble if adopted. If a State society should join as a whole, and thus become a "constituent State society," its members will pay but two dollars annual dues. Thus we would have some men paying five dollars for the same rights and privileges accorded to others for two. But what seems more confusing is the fact that members of "branch associations" are to be taxed but two dollars. Let us consider for a moment what this will lead to. What is meant by a "branch association?" We find the answer in Article IV, Section 5, which states that "The members of each division of the United States may form themselves into separate bodies to be styled "branches." For this purpose the United States is arbitrarily divided into "East," "West," and "South." Thus far we have but one such "branch," the Southern, the advisability of maintaining which is open to serious debate. But, be that as it may, all members of the Southern will be received into full membership for two dollars annually, a privilege only to be obtained by dentists of other States, provided an entire State society should come in as a body. Is this a sound constitutional principle? Would all members in such an association be receiving equal rights?

Article VI, Section 1, reads as follows:

**The Proposed House
of Delegates.**

SECTION 1. *The officers of this Association shall be:*

A President, three Vice-Presidents, Corresponding Secretary, Recording Secretary, Treasurer, and Executive Committee consisting of nine (9) members, a House of Delegates consisting of the President, Secretary, and five members from each of the three geographical divisions of the United States.

Here we observe that the old Executive Council is enlarged to fifteen, besides the President and Secretary, and the name is changed to House of Delegates. If the compilers will pardon the statement, this is a misnomer. If there is any good reason for enlarging the Executive Council, by all means let it be enlarged. But what will it avail to change the name without at all altering its constitutional relation with the general body?

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The term "House of Delegates" is borrowed from the American Medical Association, but there has been no effort to make it what the term implies.

As has been already pointed out, the Constitution of the American Medical Association is modeled upon the plan of the United States government. Its annual sessions may, in a large sense, be likened to sessions of Congress. We find two bodies at work. First, the body of general members (in a way resembling the House of Representatives). This general body discusses all matters of educational and scientific interest. Then we have the House of Delegates (the Senate), attending to the business management of the Association.

The House of Delegates differs slightly from the United States Senate in its allotment of representation to each State. In the medical association, each State elects delegates to the House of Delegates, in proportion to its total membership; in the United States Senate each State has two senators, regardless of size. If the National Dental Association intends to take a step forward and really have a House of Delegates, and if it is not ready to fully copy the American Medical Association, it has the alternative of imitating the United States Senate, and its House of Delegates could be composed of one or two delegates from each State society. But let us at least be consistent. If we are to inaugurate a House of Delegates, pray let us confine this body to—delegates.

In this connection we may at once quote Section 7, of the same article, which reads as follows:

Methods of Election.

SEC. 7. *The House of Delegates, consisting of five members from each geographical division of the country, shall be elected at three separate caucuses held at the same hour and at a time selected by the Council or House of Delegates upon the day of election. The election in each division shall be by the votes of members in that division only.*

If there has been one objection, made more often than any other, to the present National Dental Association, it is contained in the word "politics!" It is probably impossible to have any association at all entirely free from the gloved but firm clutch of the politician and office-seeker. But surely we need not pave the way for him by providing for that most useful cog in the makeup of his machine, viz., the caucus.

The caucus, as provided here, is mischievous in at least two ways.



In the first place, it provides for an election of a House of Delegates, by persons present at the annual session. Real delegates cannot be elected in such fashion. A delegate represents a constituency, the majority of which is absent. He is a person to whom powers and duties are delegated by those having equal rights, but not present or qualified to assert them. This is the common political meaning of the word in this country. The delegate always stands for and acts for those at home. Thus a House of Delegates if we are to have one, must consist of delegates elected at home, which logically means by our State societies, who thus have voice and responsibility in the management of the national body.

But even if we retain the old Executive Council, and abandon the term "House of Delegates," this caucus method of balloting will result in dissatisfaction. Only one geographical division will be fairly represented, and that will be the one in which the annual session may occur. The other two caucuses will be sparsely attended and will readily be dominated by a band of politicians, whether the one now existing, or a new one which might arise, being of little consequence. The point is, that with this caucus method we will perpetuate what so many are desirous of terminating, viz., domination by the few.

While on the subject of elections, let us consider Section 5.

SEC. 5. The candidates for office (except the members of the House of Delegates and members of the Executive Committee) shall be nominated by an informal ballot of the Association, and under no circumstances can the rule be suspended which governs nominations and elections by an informal ballot when voting for the President and Vice-Presidents.

Why the informal ballot? This again is the favorite method of the practical politician. In theory there is no nomination, and each member records his unadvised and unsolicited choice. In practice we see lobbyists busily whispering the names of friends and begging votes. Verily a pretty picture! What wonder that so many men absent themselves from "election day" meetings.

It is time to abandon this method, and so escape from the abuses that have been possible because of it. Why should we have a secret ballot? Why may we not openly rise, make nominations and state our reasons for wishing our chosen candidates elected? Why not? It will

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take more time? Granted, but it will be time well spent, and the meetings will be more fully attended if it be known that there is no secret slate that can be crammed through the doorway opened by the "informal ballot." With more men in attendance, there must be less chance for dissatisfaction, for your American citizen abides by the result of an election, if the election be but fair and open. But informal ballots, lobbying for votes, whispered solicitations, star chamber sessions, and caucuses, are all a part of objectionable politics, and it is time for a self-respecting profession to be rid of them.

Choice of President.

This brings us to a consideration of Article VI, Section 3, which the Committee has left unaltered. It reads:

SEC. 3. The President shall be chosen from the division in which the next annual meeting is to be held, and the three Vice-Presidents from each geographical division.

Sentimentally it is a pleasant idea that when the annual session occurs in a certain geographical division, the presiding officer shall be a member from that division, but practically it has been abundantly proven that the President should reside in the division in which the election takes place. In this way, and only in this way, can it be assured that the chosen one will be *persona grata* to his own constituency. At present a man is elected a long way from home, and those that know him best have little say in his preferment.

Powers of House of Delegates.

Article IX deals with the powers and conduct of the House of Delegates, and it is this article more than any other which has been the subject of dispute in the past. Unfortunately, the Revision Committee appear not to have been cognizant of this, for the ambiguous language stands unaltered. Section 1 reads as follows:

SECTION 1. *The House of Delegates* shall be the business head of the Association during its annual sessions, and when it deems it necessary, have charge of all its business matters whatsoever; and it will be its duty to take cognizance of the doings of any and all of its officers, and attend to all matters referred to it.

The words "and when it deems it necessary, have charge of all its business matters whatsoever," somewhat complicates the paragraph. There can be no doubt, if one study the constitution closely, that the old



Executive Council was meant to be "the business head of the Association during its annual sessions" exactly as stated in this section, the Executive Committee being "the Business Committee *ad interim* of the Association," as is provided in Article VIII, Section 1. Nevertheless, the Council has never hesitated to meet between sessions, such meetings being without warranty, unless the words "and when it deems it necessary," can be stretched to cover the situation, a meaning which cannot be attributed to the paragraph under a strict grammatical interpretation. This view is further sustained by the fact that special provision is made for meetings of the Executive Committee between annual sessions (Article VIII, Sec. 7), whereas nowhere in the Constitution is there provision for any meeting of the old Executive Council, or proposed House of Delegates, between sessions. Would it not be wise to make this point so clear in the new Constitution that there can be no further controversy on this point.

**Restriction of
Debate.**

One other point in connection with this revision should receive serious consideration. In the earlier days our annual sessions were much hampered by the discussion of matters of business in open sessions, which consumed much time which should have been allotted to the reading of papers and scientific debate. To obviate this the existing rule was made that matters of business should be referred to the Executive Council, without debate, and that the Council's report, in like manner, should be accepted or rejected, without debate. This goes to an opposite and dangerous extreme. No report ever can be rejected "without debate." No member may expect to rise and move that "the report be rejected," with any hope of carrying his point, unless privileged to give his reasons. This makes of the Executive Council a dominant power, and practically stifles individual expression of objection. Both horns of this dilemma are troublous, but there must be a middle way. Two possible solutions are worthy of consideration. If the proposed House of Delegates is to be a small body, even the proposed seventeen being small for an association into which it is designed that several thousand members may be united, then there should be set aside one meeting for the election of officers and the report of the House of Delegates, and this report should be adopted only after free opportunity for debate.



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The alternate plan would be to confine all business matters to the House of Delegates, but in that case the House should be made up of actual delegates from constituent societies. If it is thought best not to make this body too large at present, the section providing for its constitution may provide for one delegate from each State society at the outset, and a reapportionment once every three years, in which way the House of Delegates could be kept within reasonable agreement with the increase of membership in the Association.

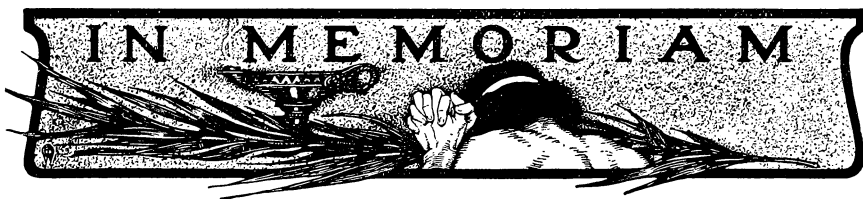
In conclusion, it is the humble view of the writer that if the profession is not yet ready to adopt the American Medical Association plan in its entirety, it still would be the course of wisdom to approach it as closely as possible, and the fundamental principle tersely put is, "a national organization, composed of constituent State societies, and governed by a delegate body equally apportioned among the constituent States."

This criticism of the Committee's report is presented to the profession impersonally, and a free and frank discussion is invited in the pages of *ITEMS OF INTEREST*.

RODRIGUES OTTOLENGUI.

Dr. Joseph W. Wassall Dead.

As we go to press (September 20), the sad news reaches us by telegraph that Dr. Joseph W. Wassall, of Chicago, has been drowned. The Doctor was on Lake Michigan cruising on a friend's yacht, the "Mistral," when they were struck by a heavy storm. It was between ten and eleven o'clock at night, and, as Dr. Wassall attempted to go below, a heavy wave struck the stern of the vessel, so that it lurched and tipped and Dr. Wassall was thrown overboard. With the use of an electric flash lamp he was seen in the water a moment, only a few yards from the yacht; then a huge wave rolled over him—and all was over. The sad fate of Dr. Wassall has filled all of his friends with the deepest gloom.



Dr. Frederick Shively Whitslar.

Dr. Frederick Shively Whitslar, known to thousands of Youngstown, Ohio, people as Elder Whitslar, died of paralysis on August 7, 1909, just one month before his eighty-fifth birthday. Dr. Whitslar was a contemporary of Drs. Atkinson, Taft, Watt and others. He was one of the pioneer organizers of many societies in his locality. He was a self-made dentist, beginning his studies with just one text-book, namely Harris's "Principles and Practise of Dentistry," but he constantly added to his knowledge by studious reading of the journals and constant attendance at dental societies and clinics. He practised dentistry during the week and preached on Sundays, and during his last days helped many poor congregations by preaching gratis. He retired from active practise five years ago, after fifty years of service to his profession.

Elder Whitslar was born in Austintown township, then Trumbull County, Ohio, on the seventh day of September, 1824. It is said that there are only two older native born citizens now alive in this section.

Deceased was a remarkable man in many respects. His long life has been devoted to various activities. Born in the pioneer days of Ohio, he was bound out as a youth to work on a farm. While a young man he taught school in the old log schoolhouses, and later took up the practise of dentistry. He engaged in this profession over fifty years and was one of the pioneers of modern dentistry, writing many articles for dental magazines at one time, which gave him a national reputation.

He was active in politics, especially at the time before the Civil War, when he was an active anti-slavery advocate and assisted many slaves to escape to freedom by means of the underground railroad. Dr. Whitslar was also first President of the Youngstown City Council.

When the great conflict between the North and South broke out he enlisted to serve his country. The following extracts from the Soldiers' and Sailors' Historical Society records at Washington, D. C., tell of his honorable career under the Stars and Stripes:

"This certifies that Frederick S. Whitslar enlisted from Mahoning County, Ohio, on the second day of May, 1864, to serve one hundred

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days, and was mustered into the United States service with regiment on the eighth day of May, 1864, at Camp Dennison, Ohio, as captain of Company D, 155th Regiment, Ohio Volunteer Infantry, Colonel Harley H. Sage commanding.

"The officers and soldiers evinced the highest soldierly qualities and fully sustained the proud record our veterans have ever attained in the field, and the State and country owe them lasting gratitude for the service thus rendered. President Lincoln tendered them the thanks of the government and nation, according them the full measure of praise as our supporters and defenders. Although not permitted to take part in any of the severe battles, not a man in the command would have hesitated to face the enemy on the field of battle.

"Between Norfolk and Suffolk Captain Whitslar was detailed in command of two companies of 155th Ohio and one company of heavy artillery from New York to intercept the rebel Mosby's forces. On the night of the 4th of July, while walking out with a sergeant he captured a noted Confederate spy and brought him into camp.

"Captain Whitslar at all times performed gallant and meritorious service and was commended by his superior officers for his bravery and meritorious conduct.

"He received an honorable discharge at Camp Dennison, Ohio, on the 27th day of August, 1864, by reason of expiration of term of service."

Captain Whitslar came of a family of soldiers. His brother Henry served as a sharpshooter during the war and was killed in the service, and his grandfather, Frederick Shively, served in the Revolutionary War.

He was elder of the Central Christian Church of his city, and often substituted for ministers of all denominations and especially the Disciples, using his ability to speak religion as well as politics.

Of late years the elder had been known as Youngstown's marrying parson. Young people coming to this city from distant points, especially in Pennsylvania, were wont to seek Elder Whitslar to tie the nuptial knot because of the convenience of his home. During the passing years he married hundreds of couples.

The elder was a member of Tod Post No. 29, Department of Ohio, Grand Army of the Republic, in which he has filled the office of Chaplain three different times and Senior Vice-Commander. He was also a member of the Delta Sigma Delta fraternity; the American Dental Association; the Northern Ohio Dental Association, of which he was President; Western Pennsylvania Odontological Dental Association, of which he was President; Mahoning County Dental Association; State Dental Society of Ohio; Twenty-second District Missionary Society, of which he



was President; charter member and organizer of City Library Association.

Elder Whitslar married Miss Matilda Fox on March 4, 1849, at Canfield, Ohio. Mrs. Whitslar died October 28, 1898. But three children, Dr. W. H. Whitslar, the Cleveland dentist; Grant S. Whitslar of Youngstown, and Mrs. Allie W. Carr, who made her home with her father, survive. A sister, Mrs. Susannah Darrow, of Shehy Street, is also living.

Dr. A. W. Barber.

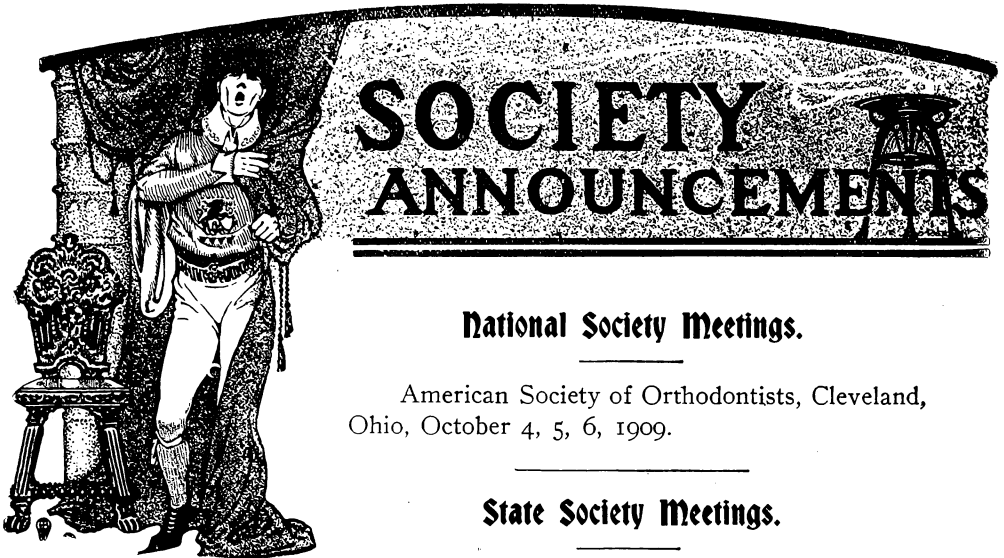
Dr. Arthur W. Barber, of Orange, N. J., came to his death by drowning on or about August 4, in the waters of Dunham Bay, Lake George, N. Y. The exact manner of his death is not known. His launch, with two ragged holes on the bottom, was found on the shore of Long Island on Lake George, and the body was not discovered for several days.

Dr. Barber was born in Fort Edwards, N. Y., twenty-nine years ago. He received his early education in that city and was graduated in the class of '02 from the New York College of Dentistry. Shortly afterward he opened an office at 81 Park Street, Orange, where he since practised. During his residence in Orange he made many friends and was very popular. He was interested in the Orange Y. M. C. A., was a member of Central Presbyterian Church, Orange, Treasurer of the Psi Omega Dental Fraternity of New Jersey for the past year and for several years was Secretary of the Civics Club of the Oranges.

He was also a member of the New Jersey State Dental Society, the Central Dental Association of New Jersey, Odontotechnique Dental Society of New York, Second District Dental Society of New York, the Orange Camera Club, the Republican Club of East Orange, and the New England Society of Orange.

The property on which Dr. Barber's camp was situated belonged to his father, who is a prominent resident of Fort Edward. He is survived by his father, mother, two sisters and one brother.

Dr. Barber was a well known trained athlete and a fine swimmer.



National Society Meetings.

American Society of Orthodontists, Cleveland,
Ohio, October 4, 5, 6, 1909.

State Society Meetings.

Ohio State Dental Society, Columbus, O., December 7, 8, 9, 1909.
West Virginia State Dental Society, Wheeling, W. Va., October 13,
14, 15, 1909.

Executive Council N. D. A.

A meeting of the Executive Council of the National Dental Association will be held at the Hotel Hollanden, Cleveland, Ohio, at 10 o'clock A. M., Saturday, November 6, 1909, for the appointment of officers of Sections, and the usual committees and the consideration of such other matters as may properly come before it.

Members of the Association having any business to present are requested to attend this meeting.

BURTON LEE THORPE, President.

CHARLES S. BUTLER, Secretary.

Buffalo, September 11.

The National Association of Dental Examiners.

Following is the list of officers of the National Association of Dental examiners: President, J. J. Wright, D.D.S., Milwaukee, Wis.; Vice-President from the West, T. E. Turner, D.D.S., St. Louis, Mo.; Vice-



President from the East, A. M. Midgeley, D.D.S., Providence, R. I.; Vice-President from the South, Starr Parsons, D.D.S., Washington, D. C.; Secretary and Treasurer, Charles A. Meeker, D.D.S.

Maryland Board of Dental Examiners.

The Maryland Board of Dental Examiners will meet for examination of candidates for certificates November 10 and 11, 1909, at the Baltimore College of Dental Surgery, Baltimore, 9 A. M.

For application blanks and further information apply to

F. F. DREW, Secretary.

701 North Howard Street, Baltimore, Md.

Massachusetts Dental Society.

Officers, 1909-1910: President, Cornelius S. Hurlbut, Springfield; First Vice-President, Eugene H. Smith, Boston; Second Vice-President, Carl Lindstrom, Boston; Secretary, C. W. Rodgers, Dorchester; Assistant Secretary, Coleman Tousey, Boston; Treasurer, Joseph T. Paul, Boston; Editor, C. Edson Abbott, Franklin.

Dental Journal: *Journal of the Allied Societies.* Massachusetts Editor, C. Edson Abbott, D.D.S., Franklin, Mass.

Place of meeting in June, 1910: Springfield, Mass.

Respectfully submitted,

C. EDSON ABBOTT, D.D.S.,

Editor, 1909-1910.

Illinois State Board of Dental Examiners.

The annual meeting of the Illinois State Board of Dental Examiners for the examination of applicants for a license to practise Dentistry in the State of Illinois will be held in Chicago at the Dental Department of the University of Illinois, corner Honore and Harrison Streets, beginning Monday, November 8, 1909, at 9 A. M. Applicants must possess the following requirements in order to be eligible to take the examination:

"The following preliminary qualifications shall be required of candidates to entitle them to examination by this Board for a license to practise dentistry in the State of Illinois: Graduates of

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a reputable dental or medical school or college, or dental department of a reputable university, who enter the school or college as freshmen on or after the school year of 1906-7, must have a minimum preliminary education of not less than graduation from an accredited high school or a certificate from the State Superintendent of Public Instruction, equivalent officer or deputy, acting within his proper or legal jurisdiction, showing that the applicant had an education equal to that obtained in an accredited high school; which certificate shall be accepted in lieu of a high school diploma."

Candidates will be furnished with proper blanks and such other information as is necessary on application to the Secretary. All applications must be filed with the Secretary five days prior to date of examination. The examination fee is twenty dollars (\$20.00), with an additional fee of five dollars (\$5.00) for a license.

Address all communications to

T. A. BROADBENT, Secretary.

705 Venetian Building, Chicago, Ill.

Ohio State Dental Board.

The Ohio State Dental Board will hold its regular fall meeting in Columbus on October 19-22, 1909, for the examination of applicants for license.

All applications, with the fee of \$25.00, should be in the hands of the secretary not later than October 9.

For further information and blank applications address,

F. R. CHAPMAN, Secretary.

305 Schultz Building, Columbus, Ohio.

Connecticut State Dental Commissioners.

The Dental Commissioners of the State of Connecticut hereby give notice that they will meet at Hartford on Wednesday, Thursday and Friday, November 17, 18 and 19, 1909, to examine applicants for license to practise dentistry. Application blanks, rules, etc., will be forwarded by the Recorder upon request. By order of the Commission,

GILBERT M. GRISWOLD, Recorder.

783 Main Street, Hartford, Conn.



New Jersey State Board of Registration and Examination in Dentistry.

The New Jersey State Board of Registration and Examination in Dentistry will hold their semi-annual meeting in the Assembly Chamber of the State House at Trenton, N. J., beginning Monday, December 6, and continuing through the 7th and 8th.

Applicants for examination must file photograph and preliminary credentials with the application or it will not be received.

Sessions begin promptly at 8 A. M. each day. Monday, December 6, devoted to practical examination; Tuesday and Wednesday, theoretical examination.

Applications must be filed ten days prior to the meeting.

CHARLES A. MEEKER, D.D.S., Secretary.

29 Fulton Street, Newark, N. J.

Arizona Board of Dental Examiners.

The next meeting of the Arizona Board of Dental Examiners will be held in Phoenix, Ariz., in November. For further information address,
J. HARVEY BLAIN, Secretary.

Prescott, Ariz.

New Hampshire Board of Registration in Dentistry.

The next meeting of the New Hampshire Board of Registration in Dentistry will be held December 7, 8, and 9, 1909, at Masonic Banquet Hall, Manchester, N. H.

No special examinations. All persons must have a license before beginning practice.

A. J. SAWYER, Secretary.

Manchester, N. H.

Texas State Board of Dental Examiners.

The regular meeting of the Texas State Board of Dental Examiners will be held in Dallas, Texas, beginning 9 A. M. Monday, December 13, 1909. Diplomas not recognized or registers. Examination required of all. No interchange of license with other States. No special examination to practitioners already in active practice. Applications accom-



panied by a fee of \$25.00 should be in the secretary's hands December 10. For further information address,

BUSH JONES, Secretary.

Dallas, Texas.

Ohio State Dental Society.

The forty-fourth annual meeting of the Ohio State Dental Society will be held in the assembly rooms of the Great Southern Hotel, Columbus, on December 7, 8 and 9, 1909. The program of papers and clinics will be second to none of those of the past.

A more extended notice will appear in the November number of the *ITEMS OF INTEREST*.

Mark these dates off your appointment book *now* and come prepared to stay through the entire meeting.

F. R. CHAPMAN, Secretary.

305 Schultz Building, Columbus, O.

Vermont State Dental Society.

At the thirty-third annual meeting of the Vermont State Dental Society, held jointly with the New Hampshire State Dental Society at Wiers, N. H., the following officers were elected for the ensuing year: Dr. C. F. Meacham, President, Bellows Falls; Dr. A. Z. Cutler, First Vice-President, Bennington; Dr. L. E. Mellen, Second Vice-President, Middlebury; Dr. Harry F. Hamilton, Secretary, Newport; Dr. W. H. Munsell, Treasurer, Wells River. Executive Committee: Dr. F. H. Brown, Enosburgh Falls; Dr. Dana E. Dearing, South Royalton; Dr. Thomas Mound, Rutland.

The Odontographic Society of West Philadelphia.

The next meeting of the Odontographic Society of West Philadelphia will be held Monday evening, October 4, at 8 P. M., in the Amphitheatre of Dental Hall, University of Pennsylvania.

No meetings being held during July, August and September; this one being the opening of our Fall and Winter sessions, will be of unusual interest to all members.

R. R. PARKS, Secretary.



New Jersey State Dental Society.

The following is the list of officers elected at the annual meeting of the New Jersey State Dental Society for 1909-1910:

Charles H. Dilts, D.D.S., President, Trenton, N. J.; Wallace F. Naylor, D.D.S., Vice-President, Somerville, N. J.; Dr. Henry A. Hull, Treasurer, New Brunswick, N. J.; Charles A. Meeker, D.D.S., Secretary, 29 Fulton St., Newark, N. J. Executive Committee: Wallace F. Naylor, D.D.S., Chairman, Somerville, N. J.; Harvey Iredell, D.D.S., New Brunswick, N. J.; W. W. Hawke, D.D.S., Flemington, N. J.; G. M. Holden, D.M.D., Hackettstown, N. J.; Wm. I. Thompson, D.D.S., Asbury Park, N. J. Membership Committee: Dr. Oscar Adelberg, Elizabeth, N. J.; Moore Stevens, D.D.S., Atlantic City, N. J.; J. G. Halsey, D.D.S., Swedesboro, N. J.; Thomas F. Martin, D.D.S., Rahway, N. J.; T. R. Harvey, D.D.S., Westfield, N. J.

Northern Illinois Dental Society.

The twenty-second annual meeting of the N. I. D. S. will be held at Elgin, October 20-21, 1909.

Our regular most excellent program is assured. Banquet Wednesday evening, which is free to all members whose dues are paid, is an innovation from which great pleasure is anticipated. Come and bring a new member with you. Mark the date on your appointment book.

F. H. BOWERS, Secretary.

Freeport, Ill.

New York Alumni Association Xi Psi Phi Fraternity.

The Annual Fall Meeting of the New York Alumni Association of the Xi Psi Phi Fraternity, will be held at the Hotel Astor, Times Square, New York City, on Wednesday evening, October 13, 1909. The meeting will be called to order promptly at 8 P. M.

As the officers for the ensuing year are to be elected and several important changes to be made in the Constitution, it is urgently requested that *every Alumnus* of the Xi Psi Phi Fraternity residing in or about New York City be present. For further particulars address

J. NOBERT GELSON, Secretary.

673 Vanderbilt Avenue, Brooklyn, N. Y.



G. V. Black Dental Club (Inc.)

The members of the G. V. Black Dental Club (Inc.) will hold their midwinter clinic in St. Paul, Minn., February 24 and 25, 1910. For further particulars address,

R. B. WILSON, Secretary.

409-10 Am. Nat. Bank Bldg., St. Paul, Minn.

Seventh and Eighth District Dental Societies of the State of New York.

The union meeting of the Seventh and Eighth District Dental Societies of the State of New York will be held at Hotel Iroquois, Buffalo, N. Y., October 29-30, 1909.

WALTER H. ELLIS, Secretary.



